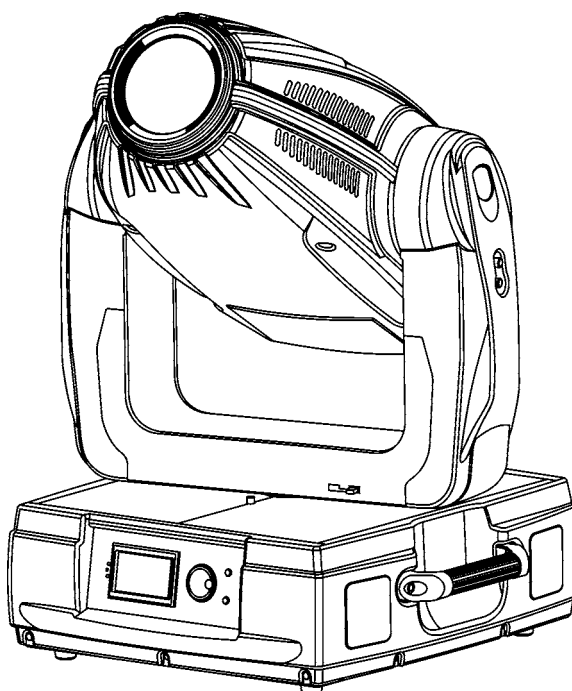




Color Spot **1200E** ^{AT} Profile



at series

USER MANUAL

Version: 1.3

Color Spot 1200E^{AT} Profile

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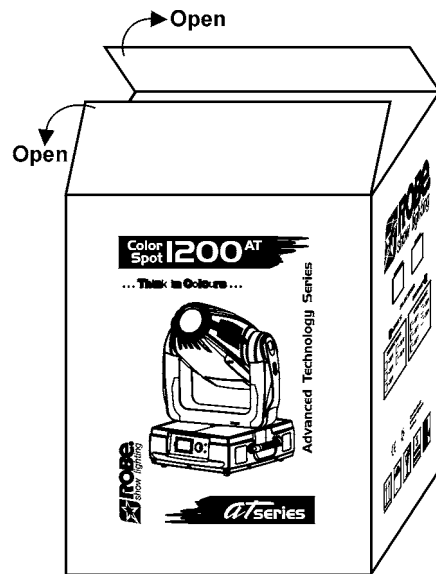
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1. Unpacking

The ColorSpot 1200E AT Profile cardboard box included items:

- Colorspot 1200E AT Profile
- User manual (1 piece)
- **Small paper box with:**
- Gobo-set 17 (1 piece)
- Mounting bracket Omega CL assembled (2 pieces)

The small paper box is situated in the top part of the cardboard box.



CAUTION! *Keep this device away from rain and moisture!
Unplug mains lead before opening the housing!*

**FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY
BEFORE YOU INITIAL START - UP!**

2. Safety instructions

Every person involved with installation and maintenance of this device have to:

- be qualified
- follow the instructions of this manual

CAUTION! *Be careful with your operations.
With a high voltage you can suffer a dangerous electric shock
when touching the wires!*

This device has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

Important:

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.

Please consider that damages caused by manual modifications to the device are not subject to warranty.

Never let the power-cord come into contact with other cables! Handle the power-cord and all connections with the mains with particular caution!

Make sure that the available voltage is not higher than stated on the rear panel.

Always plug in the power plug least. Make sure that the power-switch is set to off-position before you connect the device to the mains. The power-plug has to be accessible after installing the device.

Make sure that the power-cord is never crimped or damaged by sharp edges. Check the device and the power-cord from time to time.

Always disconnect from the mains, when the device is not in use or before cleaning it. Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.

This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.

The electric connection, repairs and servicing must be carried out by a qualified employee.
Do not connect this device to a dimmer pack.

Do not switch the fixture on and off in short intervals as this would reduce the lamp's life.

During the initial start-up some smoke or smell may arise. This is a normal process and does not necessarily mean that the device is defective.

Do not touch the device's housing bare hands during its operation (housing becomes hot)!
For replacement use lamps and fuses of same type and rating only.

CAUTION ! *Avoid looking directly into the light source*
EYEDAMAGES ! (meant especially for epileptics) !

3. Operating determinations

This device is a moving-head spot for creating decorative effects and was designed for indoor use only.

If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.

Never run the device without lamp!

Do not shake the device. Avoid brute force when installing or operating the device.

Never lift the fixture by holding it at the projector-head, as the mechanics may be damaged. Always hold the fixture at the transport handles.

When choosing the installation-spot, please make sure that the device is not exposed to extreme heat, moisture or dust. There should not be any cables lying around. You endanger your own and the safety of others!

The minimum distance between light-output and the illuminated surface must be more than 4 meters.

Make sure that the area below the installation place is blocked. Always fix the fixture with an appropriate safety-rope. Fix the safety-rope at the correct holes only.

Only operate the fixture after having checked that the housing is firmly closed and all screws are tightly fastened.

The lamp must never be ignited if the objective-lens or any housing-cover is open, as discharge lamps may explode and emit a high ultraviolet radiation, which may cause burns.

The maximum ambient temperature 40° C must never be exceeded. Otherwise, the lamp is switched off and the fixture is out of operation for 5 minutes.

CAUTION! *The lens has to be replaced when it is obviously damaged,*
so that its function is impaired, e. g. due to cracks or deep scratches!

Operate the device only after having familiarized with its functions. Do not permit operation by persons not qualified for operating the device. Most damages are the result of unprofessional operation!

CAUTION! *The lamp has to be replaced when it is damaged or deformed*
due to the heat!

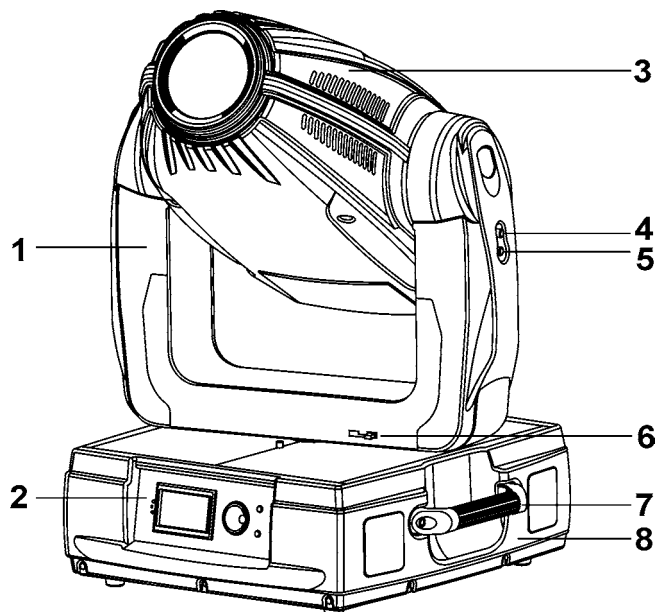
Please use the original packaging if the device is to be transported.

Please consider that unauthorized modifications on the device are forbidden due to safety reasons!

If this device will be operated in any way different to the one described in this manual, the product may suffer damages and the guarantee becomes void. Furthermore, any other operation may lead to dangers like short-circuit, burns, electric shock, burns due to ultraviolet radiation, lamp explosion, crash etc.

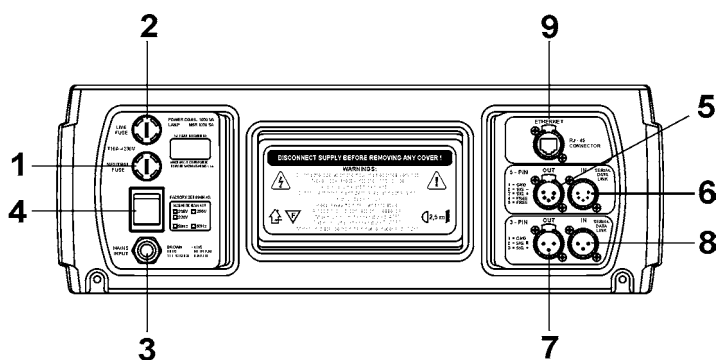
CAUTION! *The head and yoke must be unlocked before operation!*
Check the pan/tilt locks!

4. Description of the fixture



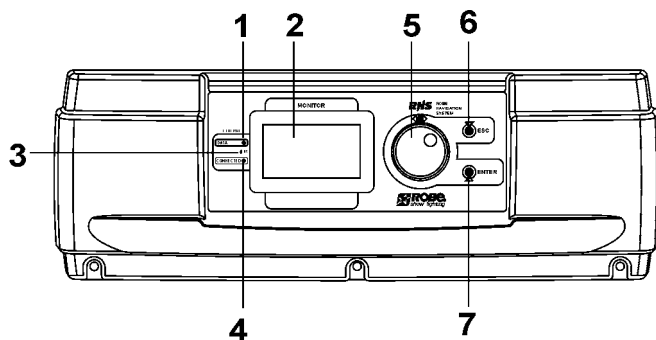
- 1 - Yoke
- 2 - Front panel
- 3 - Moving head
- 4 - Tilt lock button (red)
- 5 - Tilt unlock button (green)
- 6 - Pan lock
- 7 - Handle
- 8 - Base

The head can be locked for transportation- the tilt lock button (4) is pushed and the pan lock (6) is in a lock position. To unlock the head, press the tilt unlock button (5) and move the pan lock (6) to an unlock position.



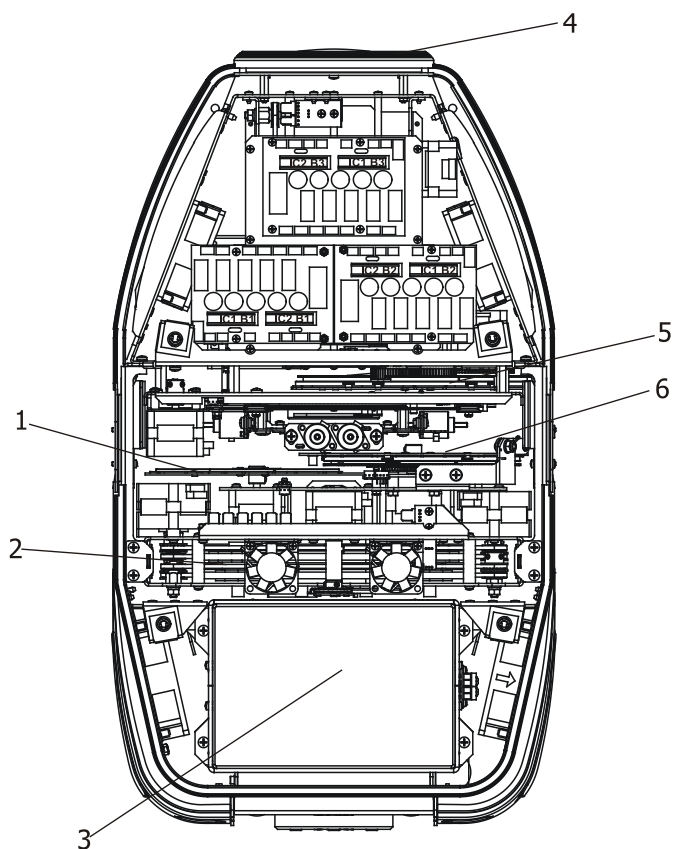
Rear panel of the base

- 1 - Neutral fuse holder
- 2 - Live fuse holder
- 3 - Power cord
- 4 - Power switch
- 5 - 5-pin DMX output
- 6 - 5-pin DMX input
- 7 - 3-pin DMX output
- 8 - 3-pin DMX input
- 9 - Ethernet input



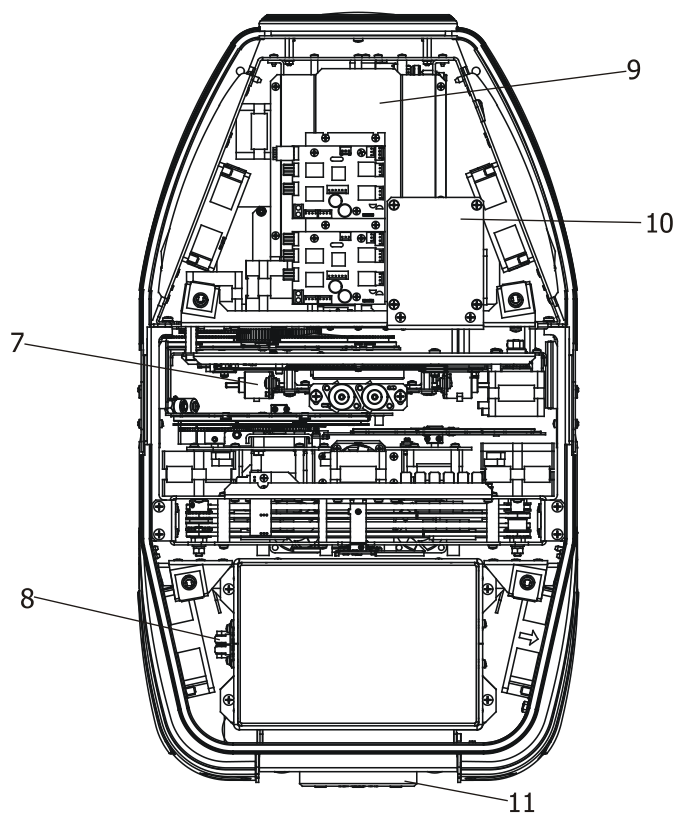
Front panel of the base

- 1 - Network indicator
- 2 - Display
- 3 - Infra-red sensor
- 4 - Data-transfer indicator
- 5 - RNS encoder wheel
- 6 - Escape button
- 7 - Enter button



Head inside-top side

- 1 - Colour wheel
- 2 - CMY module
- 3 - Turbines
- 4 - Objective lens
- 5 - Frost module
- 6 - Gobo wheel 1



Head inside-bottom side

- 7 - Framing shutters module
- 8 - Termostat
- 9 - Zoom/Focus module
- 10 - Igniter
- 11 - Lamp cover

5. Installation

5.1 Connection to the mains


Verify the power supply settings before applying power!

The factory settings are printed next to the power switch. If you wish to change the power supply settings, see the next chapter.

Install a 3-prong grounding-type plug on the power cable (only for US version 208V AC/60Hz). The earth has to be connected!

If you have any doubts about proper installation, consult a qualified electrician.

The occupation of the connection-cables is as follows:

Cable (EU)	Cable (US)	Pin	International
Brown	Black	Live	L
Liht blue	White	Neutral	N
Yellow/ Green	Green	Earth	

5.2 Changing the power supply settings

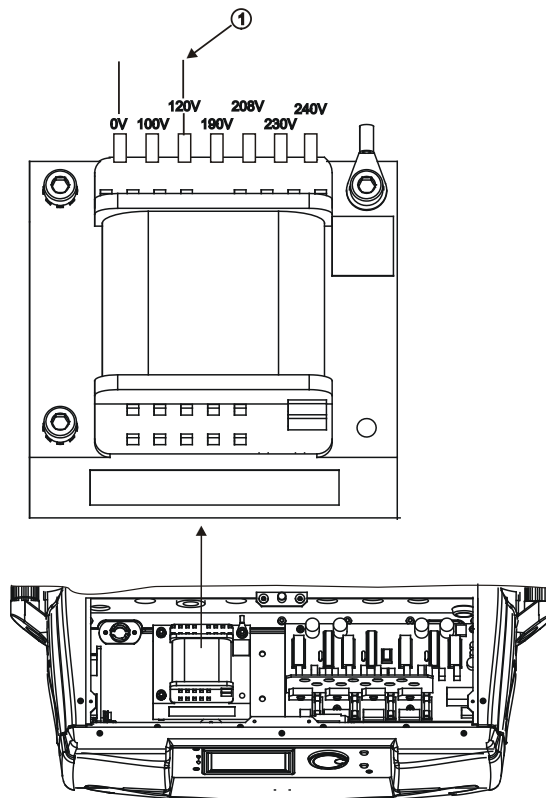
The operating range of the electronic ballast is 95 -255 V AC. The transformer has to be set to the local AC voltage.

If you want to change the power supply settings, follow the instructions:

1. Disconnect the fixture from AC power.
2. Remove the both top base covers by loosening the 12 screws.
3. Move the wire (1) on the transformer connection block to the position according desired voltage.
4. Close the base before applying AC power.

Transformer connection:

Power supply settings: 120V/60Hz



5.3 Fitting the lamp

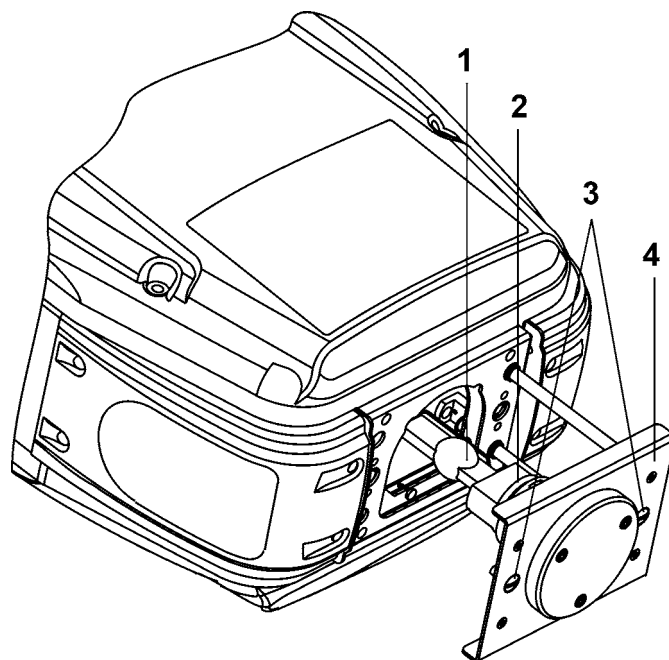
**DANGER ! Install the lamps with the device switched off only.
Unplug from mains before !**

To insert the lamp (MSR 1200 SA):

1. Disconnect the fixture from power and allow it to cool.
2. Loosen the 2 quarter-turn fasteners marked „X, Y,” on the lamp cover at the back of the head.
3. Gently pull the lamp cover with lamp holder out of the head.
4. Holding the lamp by its ceramic base, carefully pull the lamp straight out of the lamp socket.
5. Holding the new lamp by its ceramics base, gently insert the lamp to the lamp socket. Make sure that the lamp is installed tightly into the lamp socket.

Do not install a lamp with a higher wattage! A lamp like this generates temperatures the device is not designed for. Damages caused by non-observance are not subject to warranty. Please follow the lamp manufacturer's notes! Do not touch the glass bulb bare hand during the installation!

6. Reinsert the lamp cover with the lamp holder and installed lamp back to the head and tighten the 2 quarter-turn fasteners again.
- Warning:** if you feel any resistance during this action, check the lamp electrode position and use „A,B,C” screws to adjust right lamp position. Never put the lamp in by force otherwise you will bend the lamp electrode by the edge of the reflector! (See picture below)
7. Align the new lamp.
8. Reset „Lamp On Time” and „Lamp Strikes” counters in „Fixture information” menu.



- 1 - Lamp
- 2 - Lamp holder
- 3 - 2 quarter-turn fasteners
- 4 - Lamp cover

Do not operate this fixture with opened housing-cover!

5.4 Lamp adjustment

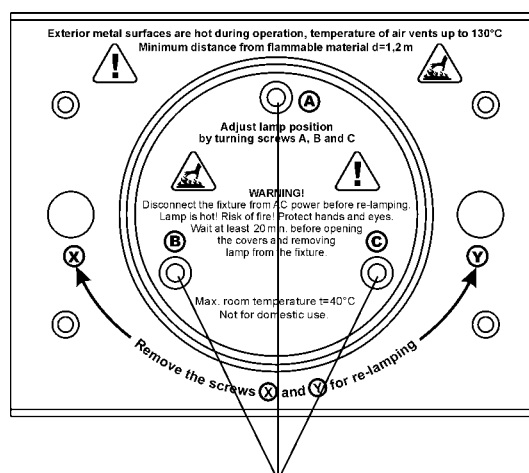
The lamp holder is aligned at the factory.

Due to differences between lamps, fine adjustment may improve light performance:

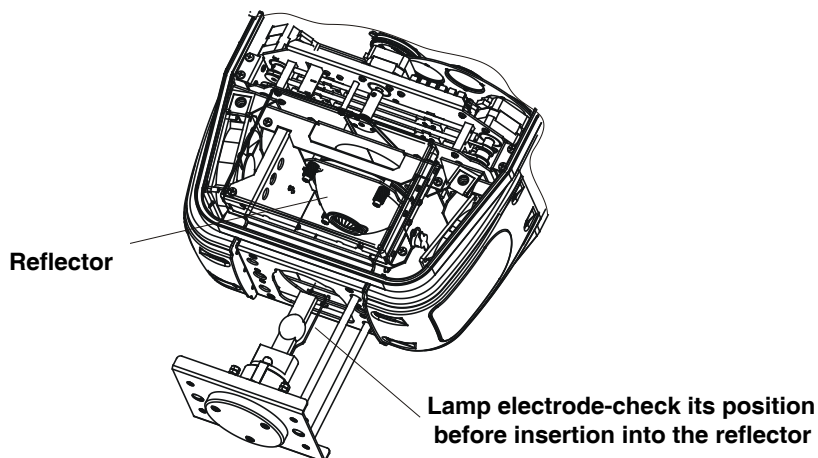
1. Switch on the fixture and after reset turn on the lamp.
2. Cancel all effects, open the shutter and focus the light on a flat surface (wall) using either DMX controller or function „Lamp adjustment” in „Special functions menu”.
3. Center the hot-spot (the brightest part of the beam) using the 3 adjustment screws „A, B, C”. Turn one screw at a time to drag the hot-spot, diagonally across the projected image. If you cannot detect a hot-spot, adjust the lamp until the light is even.

To reduce a hot-spot, pull the lamp in by turning all three screws „A, B, C” clockwise 1/4-turn at a time until the light is evenly distributed.

If the light is brighter around the edge than it is in the center, or if light output is low, the lamp is too far back in the reflector. „Push” the lamp out by turning the screws „A, B, C” counterclockwise 1/4-turn at a time until the light is bright and evenly distributed.



3 adjustment screws „A, B, C”



5.5 Inserting/Exchanging gobos and colours

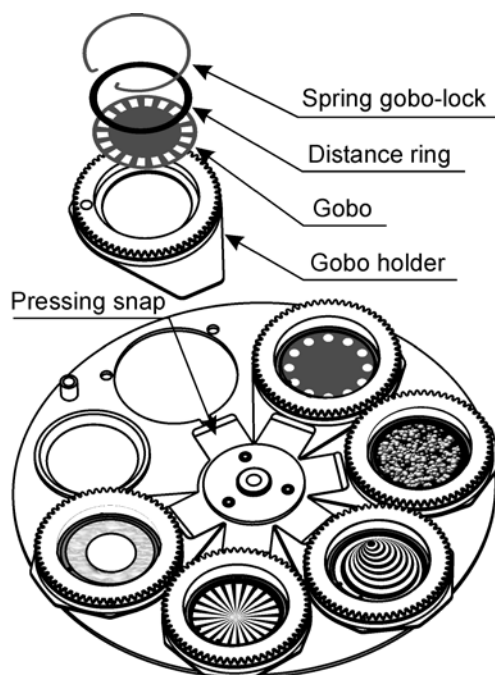
DANGER! *Install the gobos, and colours with the device switched off only. Unplug from mains before!*

Turn off the lamp and allow it to cool for at least 10 minutes. Disconnect the fixture from power.

Open the top cover of the moving head by loosening the 4 quarter-turn fasteners on the top cover and follow the instructions below:

Rotating gobo-wheel:

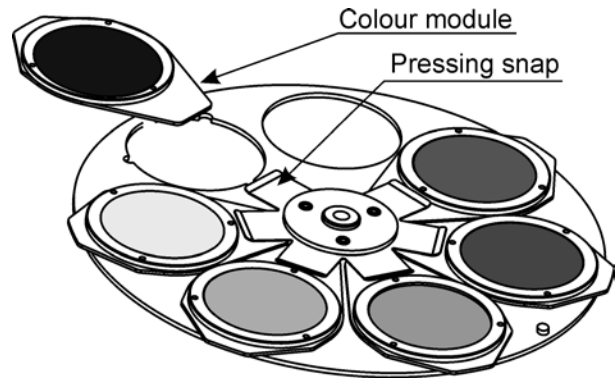
1. Gently bend out the gobo holder to release it from the fixative holes and eject it from the pressing snap.
2. Press the ends of the spring gobo-lock together with an appropriate tool and remove it. Do not touch the surface of the pattern of the glass gobos as the oils from your hands can damage the pattern.
3. Remove the distance ring and gobo and insert the new gobo (glazy side towards the lamp) with distance ring. Press the ends of the spring gobo-lock together and insert it in the front of the gobo.
4. Put the gobo holder back under the pressing snap and push it to the 3 fixative notches.



CAUTION! *The gobo holder with the magnet must be placed in the same gobo position as it was placed before gobo replacement!*

Colour-wheel:

1. Gently bend out the colour module to release it from the fixative holes and eject it from the pressing snap.
2. Put the new colour module back under the pressing snap and push it to the 3 fixative notches.

**5.6 Rigging the fixture*****DANGER TO LIFE!***

Please consider the respective national norms during the installation!

The installation of the fixture has to be built and constructed in a way that it can hold 10 times the weight for 1 hour without any harming deformation.

The installation must always be secured with a secondary safety attachment, e.g. an appropriate catch net. This secondary safety attachment must be constructed in a way that no part of the installation can fall down if the main attachment fails.

When rigging, derigging or servicing the fixture staying in the area below the installation place, on bridges, under high working places and other endangered areas is forbidden.

The operator has to make sure that safety-relating and machine-technical installations are approved by an expert before taking into operation for the first time and after changes before taking into operation another time.

The operator has to make sure that safety-relating and machine-technical installations are approved by an expert after every four year in the course of an acceptance test.

The operator has to make sure that safety-relating and machine-technical installations are approved by a skilled person once a year.

Allow the fixture to cool for ten minutes before handling.

The projector should be installed outside areas where persons may walk by or be seated.

IMPORTANT! OVERHEAD RIGGING REQUIRES EXTENSIVE EXPERIENCE, including (but not limited to) calculating working load limits, installation material being used, and periodic safety inspection of all installation material and the projector. If you lack these qualifications, do not attempt the installation yourself, but instead use a professional structural rigger. Improper installation can result in bodily injury and or damage to property.

The fixture has to be installed out of the reach of people.

If the fixture shall be lowered from the ceiling or high joists, professional trussing systems have to be used. The fixture must never be fixed swinging freely in the room.

Caution: Fixtures may cause severe injuries when crashing down! If you have doubts concerning the safety of a possible installation, do not install the fixture!

Before rigging make sure that the installation area can hold a minimum point load of 10 times the fixture's weight.

Danger of fire!

When installing the device, make sure there is no highly inflammable material (decoration articles, etc.) in between a distance of min. 1.2 m.

CAUTION! ***Use 2 appropriate clamps to rig the fixture on the truss.***
Follow the instructions mentioned at the bottom of the base.
Make sure that the device is fixed properly!
Ensure that the structure (truss)
to which you are attaching the fixtures is secure.

The moving-head can be placed directly on the stage floor or rigged in any orientation on a truss without altering its operation characteristics .

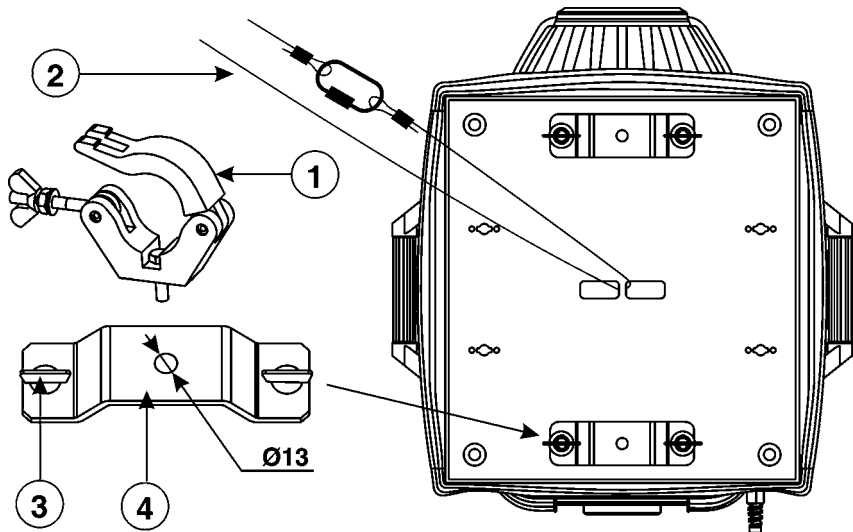
The Omega holders can be placed in 4 positions on the bottom of the base. Use the clamps (not included in delivery) with screws M12.

For overhead use, always install a safety-rope that can hold at least 10 times the weight of the fixture. You must only use safety ropes with screw-on carabines. Pull the safety rope through the two apertures on the bottom of the base and over the trussing system etc. Insert the end in the carabine and tighten the fixation screw.

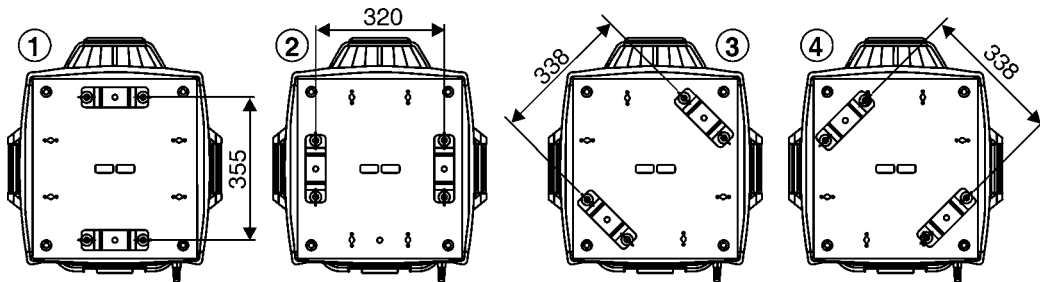
Fixation via the omega holders

1. Bolt each clamp (1) to the omega holder (4) with M12 bolt and lock nut through the hole in the holder.
2. Fasten the omega holders on the bottom of the base by inserting both quick-lock fasteners (3) into the holes of the base and tighten fully clockwise.
3. Fasten the safety-rope (2) through the two apertures on the bottom of the base and over the trussing system.

- 1 - Clamp
- 2 - Safety-rope
- 3 - Quick-lock fastener
- 4 - Omega holder



Possible omega holder 4 positions:



When installing fixtures side-by-side, avoid illuminating one fixture with another!

DANGER TO LIFE!

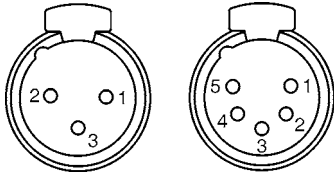
Before taking into operation for the first time, the installation has to be approved by an expert!

5.7 DMX-512 connection/connection between fixtures

The fixture is equipped with both 3-pin and 5-pin XLR sockets for DMX input and output. The sockets are wired in parallel. Only use a shielded twisted-pair cable designed for RS-485 and 3-pin or 5-pin XLR-plugs and connectors in order to connect the controller with the fixture or one fixture with another.

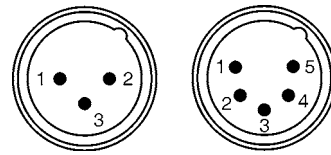
Occupation of the XLR-connection:

DMX - output
XLR mounting-sockets (rear view):



- 1 - Shield
- 2 - Signal (-)
- 3 - Signal (+)
- 4 - Not connected
- 5 - Not connected

DMX-input
XLR mounting-plugs (rear view):

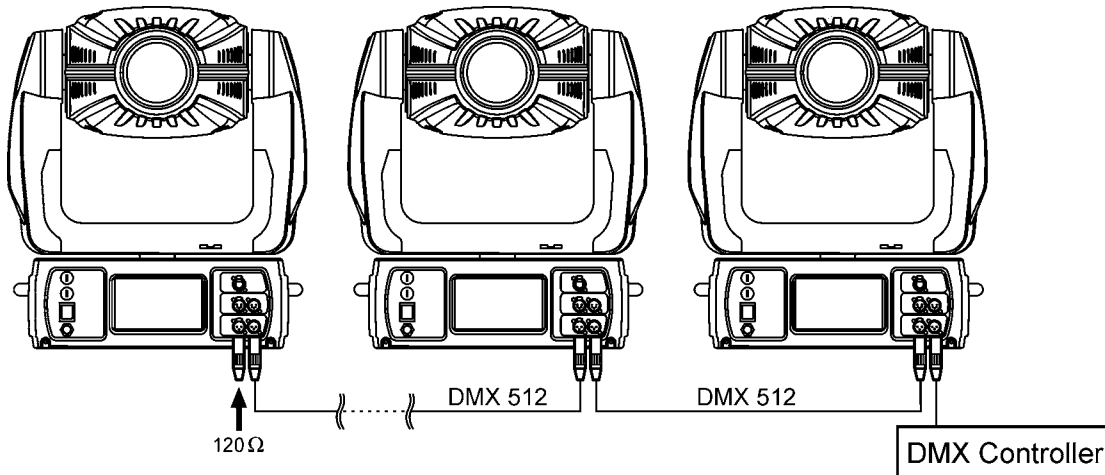


If you are using the standard DMX controllers, you can connect the DMX output of the controller directly with the DMX input of the first fixture in the DMX chain. If you wish to connect DMX controllers with other XLR outputs, you need to use adapter-cables.

Building a serial DMX chain:

Connect the DMX output of the first fixture in the DMX chain with the DMX input of the next fixture. Always connect one output with the input of the next fixture until all fixtures are connected.

Caution: At the last fixture, the DMX cable has to be terminated with a terminator. Solder a 120 Ω resistor between Signal (-) and Signal (+) into a XLR plug and plug it in the DMX output of the last fixture.



5.8 Ethernet connection

The fixtures on a data link are connected to the Ethernet with Art-Net communication protocol. The controlling software from PC (or lighting console) has to support Art-Net protocol.

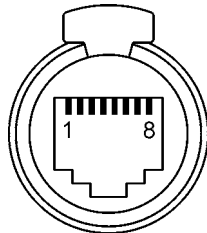
Art-Net communication protocol is a 10 Base T Ethernet protocol based on the TCP/IP. Its purpose is to allow transfer of large amounts of DMX 512 data over a wide area using standard network technology.

IP address is the Internet protocol address. The IP uniquely identifies any node (fixture) on a network.

The Universe is a single DMX 512 frame of 512 channels.

The ColorSpot 1200E AT is equipped with 8-pin RJ-45 socket for Ethernet input. Use a network cable category 5 (with four „twisted“ wire pairs) and standard RJ-45 plugs in order to connect the fixture to the network.

RJ-45 socket (front view):



- 1- TD+
- 2- TD-
- 3- RX+
- 4- Not connected
- 5- Not connected
- 6- RX-
- 7- Not connected
- 8- Not connected

Patch cables that connect fixtures to the hubs or LAN sockets are wired 1:1, that is, pins with the same numbers are connected together:

pin	1	2	3	4	5	6	7	8
pin	1	2	3	4	5	6	7	8

If only the fixture and the computer are to be inter-connected, no hubs or other active components are needed. A cross-cable has to be used:

pin	1	2	3	4	5	6	7	8
pin	3	6	1	8	7	2	5	4

Ethernet connection

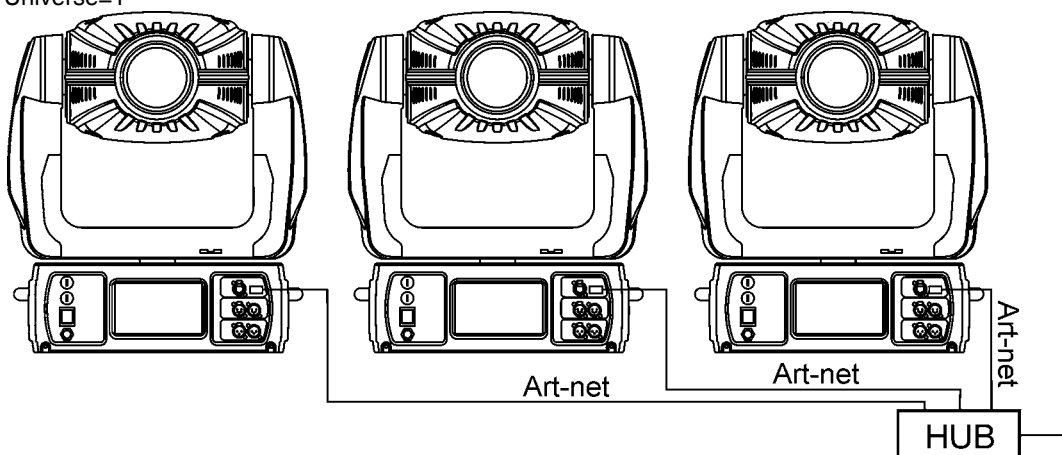
Connect the Ethernet-inputs of all fixtures in the fixture chain with the network.
Option "Ethernet" has to be selected from „Set Ethernet Mode" menu on the fixture.
Set IP address (002.xxx.xxx.xxx / 010.xxx.xxx.xxx) and the Universe.

Example:

(DMX address=71)
IP address=002.168.002.003
Universe=1

(DMX address=36)
IP address=002.168.002.002
Universe=1

(DMX address=1)
IP address=002.168.002.001
Universe=1



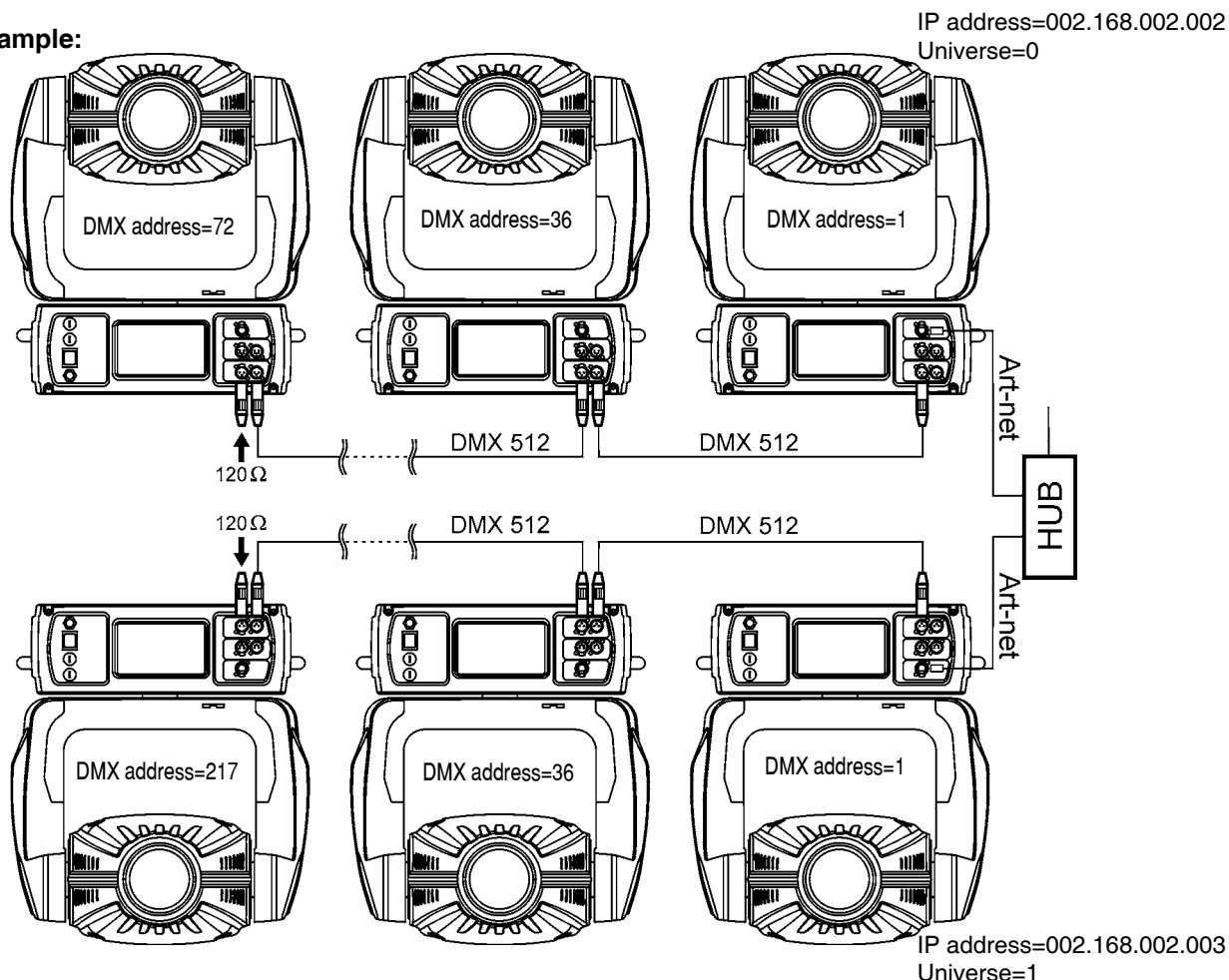
An advised PC setting: IP address: 002.xxx.xxx.xxx / 010.xxx.xxx.xxx (Different from fixture IP addresses)
NET mask: 255.0.0.0

Ethernet / DMX connection

Options „Ethernet/DMX" has to be selected from „Set Ethernet Mode" menu on the first fixture (connected to the network) in the fixture chain, next fixtures have standard DMX addresses.
Connect the Ethernet-input of the first fixture in the data chain with the network. Connect the DMX output of this fixture with the input of the next fixture until all fixtures are connected to the DMX chain.

Caution: At the last fixture, the DMX chain has to be terminated with a terminator. Solder a 120 Ω resistor between Signal (-) and Signal (+) into a XLR-plug and connect it in the DMX-output of the last fixture.

Example:



6. Colorspot 1200E AT Profile - DMX protocol, ver. 1.1

Mode / Channel 1 2		Value	Function	Type of control
1	1	0 - 255	Pan Pan movement by 530°	proportional
2	2	0 - 255	Pan Fine Fine control of pan movement	proportional
3	3	0 - 255	Tilt Tilt movement by 280°	proportional
4	4	0 - 255	Tilt fine Fine control of tilt movement	proportional
5	5	0	Pan/Tilt speed , Pan/Tilt time Max. speed (tracking mode)*	step
		1 - 255	P./T. speed-set Speed Mode in menu: Pan/Tilt Mode Speed from max. to min. (vector mode)**	proportional
		1 - 255	P./T. time - set Time Mode in menu: Pan/Tilt Mode Time from 0.1 s to 25.5 sec.	proportional
6	6	0 - 9	Power/Special functions Reserved	step
			To activate following functions, stop in DMX value for at least 3 s and shutter must be closed at least 3 s. („Shutter,Strobe” channel 28 (33) must be at range: 0-31 DMX).***	
		10 - 19	Autofocus On	step
		20 - 29	Autofocus Off	step
		30 - 49	Reserved	step
		50 - 59	Pan/Tilt speed mode	step
		60 - 69	Pan/Tilt time mode	step
		70 - 79	Blackout while pan/tilt moving	step
		80 - 89	Disabled blackout while pan/tilt moving	step
		90 - 99	Blackout while colour wheel moving	step
		100 - 109	Disabled blackout while colour wheel moving	step
		110 - 119	Blackout while rot. gobo moving	step
		120 - 129	Disabled blackout while rot. gobo moving	step
			To activate following functions, stop in DMX value for at least 3 s.	
		130 - 139	Lamp On,reset(total reset except pan/tilt reset)	step
		140 - 149	Pan/Tilt reset	step
		150 - 159	Colour system reset	step
		160 - 169	Gobo system reset	step
		170 - 179	Dimmer/Strobe reset	step
		180 - 189	Focus/Zoom/Frost reset	step
		190 - 199	Iris/ Framing shutters reset	step
		200 - 209	Total reset	step
		210 - 229	Reserved	step
		230 - 239	Lamp Off	step
		240 - 255	Reserved	step

Notes: * Range 0-255 DMX at max.speed (0 DMX):

pan=4.5 s

tilt=2.6 s

** Range 0-255 DMX at min. speed (255 DMX):

pan=37min.10 s

tilt=19 min.34 s

*** The switch-functions have priority to the equivalent functions in the menu „Personality” but the settings by DMX are not saved to the memory (after switching the fixture on, the settings from the menu „Personality” are loaded to the memory and after that can be changed by DMX values on the channel 6).

DMX protocol

- 10 - 19 Autofocus On
- 20 - 29 Autofocus Off
- 50 - 59 Pan/Tilt speed mode
- 60 - 69 Pan/Tilt time mode
- 70 - 79 Blackout while pan/tilt moving
- 80 - 89 Disabled blackout while pan/tilt moving
- 90 - 99 Blackout while colour wheel moving
- 100 - 109 Disabled blackout while colour wheel moving
- 110 - 119 Blackout while rot. gobo moving
- 120 - 129 Disabled blackout while rot. gobo moving

menu „Personality”

- Autofocus -->On
- Autofocus -->Off
- Pan/Tilt mode--->Speed Mode
- Pan/Tilt mode--->Time Mode
- Active blackout While-->Pan/Tilt Moving-->On
- Active blackout While-->Pan/Tilt Moving-->Off
- Active blackout While-->Colour Wheel Moving-->On
- Active blackout While-->Colour Wheel Moving-->Off
- Active blackout While-->Gobo Wheel Moving-->On
- Active blackout While-->Gobo Wheel Moving-->Off

Mode / Channel 1 2		Value	Function	Type of control
-	7	0 - 9 10 - 31 32 - 63 64 - 95 96 - 127 128 - 159 160 - 191 192 - 223 224 - 255	Pan/Tilt macro selection Disabled pan/tilt macro Reserved Figure of circle (from small to large) Figure of horizontal eight (from small to large) Figure of vertical eight (from small to large) Figure of rectangle (from small to large) Figure of triangle (from small to large) Figure of star (from small to large) Figure of cross (from small to large)	step step proportional proportional proportional proportional proportional proportional proportional
	8	0 1 - 127 128 - 129 130 - 255	Pan/Tilt macro speed No macro generation Macro generation from fast to slow-forwards No macro generation Macro generation from slow to fast-backwards	step proportional step proportional
7	9	0 18 37 55 73 91 110 128 - 129 130 - 139 140 - 149 150 - 159 160 - 169 170 - 179 180 - 189 190 - 215 216 - 217 218 - 243 244 - 249 250 - 255	Colour wheel Open/white Deep red Deep blue Green Orange 6000 K temperature filter UV filter White Deep red Deep blue Green Orange 6000 K temperature filter UV filter Forwards rainbow effect from fast to slow No rotation Backwards rainbow effect from slow to fast Random colour selection by audio control (Set microphone sensitivity in menu „Personality“) Auto random colour selection from fast to slow	proportional proportional proportional proportional proportional proportional proportional proportional step step step step step step proportional step proportional step proportional
8	10	0 - 255	Cyan Cyan (0-white, 255-full cyan)	proportional
9	11	0 - 255	Magenta Magenta (0-white, 255-full magenta)	proportional
10	12	0 - 255	Yellow Yellow (0-white, 255-full yellow)	proportional
11	13	0 - 255	Conversion temperature filter 3200K (0-5600K, 255-3200K)	proportional
	14	0 - 3 4 - 7 8 - 11 12 - 15 16 - 19 20 - 23 24 - 27 28 - 31 32 - 35 36 - 39 40 - 43 44 - 47 48 - 51 52 - 55 56 - 59 60 - 63 64 - 67 68 - 71	CMY Colour macros No function Macro 1 Macro 2 Macro 3 Macro 4 Macro 5 Macro 6 Macro 7 Macro 8 Macro 9 Macro 10 Macro 11 Macro 12 Macro 13 Macro 14 Macro 15 Macro 16 Macro 17	step step step step step step step step step step step step step step step step step step

Mode / Channel 1 2		Value	Function	Type of control
13	17	34 - 37	Rotation - set rotation on channel 14 (18) Gobo 1	step
		38 - 41	Gobo 2	step
		42 - 45	Gobo 3	step
		46 - 49	Gobo 4	step
		50 - 53	Gobo 5	step
		54 - 57	Gobo 6	step
			Shaking gobos from slow to fast	
			Index - set indexing on channel 14 (18)	
		58 - 69	Gobo 1	proportional
		70 - 81	Gobo 2	proportional
		82 - 93	Gobo 3	proportional
		94 - 105	Gobo 4	proportional
		106 - 117	Gobo 5	proportional
		118 - 129	Gobo 6	proportional
			Shaking gobos from slow to fast	
			Rotation - set rotation on channel 14 (18)	
		130 - 141	Gobo 1	proportional
		142 - 153	Gobo 2	proportional
		154 - 165	Gobo 3	proportional
		166 - 177	Gobo 4	proportional
		178 - 189	Gobo 5	proportional
		190 - 201	Gobo 6	proportional
		202 - 221	Forwards gobo wheel 1 rotation from fast to slow	proportional
		222 - 223	No rotation	proportional
		224 - 243	Backwards gobo wheel 1 rotation from slow to fast	proportional
		244 - 249	Random gobo 1 selection by audio control (Set microphone sensitivity in menu „Personality“)	step
		250 - 255	Auto random gobo 1 selection from fast to slow	proportional
14	18		Gobo indexing and rotation	
		0 - 255	Gobo indexing - set position on channel 13 (17) Gobo indexing	proportional
		0	Gobo rotation - set position on channel 13 (17) No rotation	step
		1 - 127	Forwards gobo rotation from fast to slow	proportional
		128 - 129	No rotation	step
		130 - 255	Backwards gobo rotation from slow to fast	proportional
	19		Gobo fine indexing and rotation (set position on channel 13 (17))	
		0 - 255	Fine indexing (rotating)	proportional
15	20	0	Frost Open	step
		1 - 179	Frost from 0% to 100%	proportional
		180 - 189	100% frost	proportional
		190 - 211	Pulse closing from slow to fast	proportional
		212 - 233	Pulse opening from fast to slow	proportional
		234 - 255	Ramping from fast to slow	proportional
16	21	0	Iris Open	step
		1 - 179	From max. diameter to min. diameter	proportional
		180 - 191	Closed	step
			Pulse effects with Iris blackout	
		192 - 203	Pulse opening from slow to fast	proportional
		204 - 215	Pulse closing from fast to slow	proportional
		216 - 217	Random pulse opening (fast)	step
		218 - 219	Random pulse opening (slow)	step
		220 - 221	Random pulse closing (fast)	step
		222 - 223	Random pulse closing (slow)	step
			Pulse effects with Iris blackout and zoom	
		224 - 239	Pulse opening from slow to fast	proportional
		240 - 255	Pulse closing from fast to slow	proportional

Mode / Channel 1 2		Value	Function	Type of control
17	22	0 - 255	Zoom Zoom from max. to min. image	proportional
18	23	0 - 255	Focus Continuous adjustment from far to near	proportional
19	24	0 - 127 128 129 - 255	Framing shutters rotation Rotation from left to center Center Rotation from center to right	proportional step proportional
20	25	0 - 255	Framing shutter 1- movent Movement from Outward to Inward	proportional
21	26	0 - 127 128 129 - 255	Framing shutter 1- swivelling Swivelling from -25 degrees towards 0 degrees 0 degrees (parallel) Swivelling from 0 degrees to +25 degrees	proportional step proportional
22	27	0 - 255	Framing shutter 2 - movent Movement from Outward to Inward	proportional
23	28	0 - 127 128 129 - 255	Framing shutter 2 - swivelling Swivelling from -25 degrees towards 0 degrees 0 degrees (parallel) Swivelling from 0 degrees to +25 degrees	proportional step proportional
24	29	0 - 255	Framing shutter 3 - movement Movement from Outward to Inward	proportional
25	30	0 - 127 128 129 - 255	Framing shutter 3 - swivelling Swivelling from -25 degrees towards 0 degrees 0 degrees (parallel) Swivelling from 0 degrees to +25 degrees	proportional step proportional
26	31	0 - 255	Framing shutter 4 - movent Movement from outward to inward	proportional
27	32	0 - 127 128 129 - 255	Framing shutter 4 - swivelling Swivelling from -25 degrees towards 0 degrees 0 degrees (parallel) Swivelling from 0 degrees to +25 degrees	proportional step proportional
28	33	0 - 31 32 - 63 64 - 95 96 - 127 128 - 143 144 - 159 160 - 191 192 - 223 224 - 255	Shutter, strobe Shutter closed, Lamp power reduced after 10 sec. to 700W Shutter open, Full lamp power Strobe-effect from slow to fast (max.15 flashes/s) Shutter open, Lamp power reduced to 700 W Opening pulse in sequences from slow to fast Closing pulse in sequences from fast to slow Shutter open, Electronic strobing „ZAP“ from slow to fast (from 7 to 33 flashes/s) Random strobe-effect from slow to fast Shutter open, Full lamp power	step step proportional step proportional proportional proportional proportional step
29	34	0 - 255	Dimmer intensity Dimmer intensity from 0% to 100% (In range 0-3 DMX, lamp power reduced to 700 W after 10 s.)	proportional
	35	0 - 255	Dimmer intensity fine Fine intensity adjusting	proportional

7. Controller mode

The fixtures are individually addressed on a data link and connected to the controller. The fixtures respond to the DMX signal from the controller.

7.1 DMX addressing

There are 512 available channels on DMX link. Every fixture on DMX link must have a DMX start address, which is defined as the first channel from which the fixture will respond to the controller.

If you set, for example, for the ColorSpot 1200E AT the start address to channel 1, the ColorSpot 1200E AT will use the channels 1 to 29 for control (if Mode 1 is selected from „DMX Preseting” menu).

Please, be sure that you don't have any overlapping channels in order to control each ColorSpot 1200E AT correctly and independently from any other fixture on the DMX data link.

If two, three or more ColorSpot 1200E AT are addressed similarly, they will work similarly.

Note: After switching on, the ColorSpot 1200E AT will automatically detect whether DMX 512 data is received or not. If there is no data received at the DMX-input, the display will start to flash with actually address.

7.2 Remotely controllable functions

Lamp

The ColorSpot 1200E AT is to be operated with a Philips MSR 1200 SA lamp.

A relay inside of the ColorSpot 1200 AT allows you to switch on and off the lamp via the control panel or via your DMX-controller without affecting the rest of the lighting.

Note: It is also important to note, that the discharge lamp is cold restrike types, that means, that they have to be cold before re-striking. For this reason, you have to wait at least 5 minutes after having switched off the lamp before you can switch it back on again. If you try to switch On the lamp within 5 minutes after having switched it Off, the ColorSpot 1200E AT will store this information and automatically ignite the lamp when the 5 minutes period has expired.

CMY-colours mixing system

The CMY color mixing system is based on graduated cyan, magenta, and yellow color filters. A continuous range of colors may be achieved by varying the amount of each filter from 0 to 100%.

Colour temperature correction filter lowers the colour temperature from 5600K to 3200 K.

Colour wheel

The ColorSpot 1200E AT features a colour wheel with 4 colour positions, UV filter and 6000 K temp. filter and the hole (open). It is also possible to rotate the colour wheel continuously at different speeds, the so-called „Rainbow effect” is created. Auto random colour selection, random colour selection by audio control is possible.

Rotating gobo wheel

The rotating gobo wheel includes 6 dichroic glass gobos rotating in both directions at different speeds. All rotating gobos are replaceable and fine indexable.

Rotating gobo wheel can continuously rotate in both directions from slow to fast speed.

Iris

Motorized adjustable iris, wide range of variable pulse effects.

Frost

Frost module provides variable frost for fine frosting.

Focus-multistep zoom

Motorized focus enables the beam to be focused anywhere on stage, provided by the special multistep zoom with range 12.5°- 37°.

Framing system

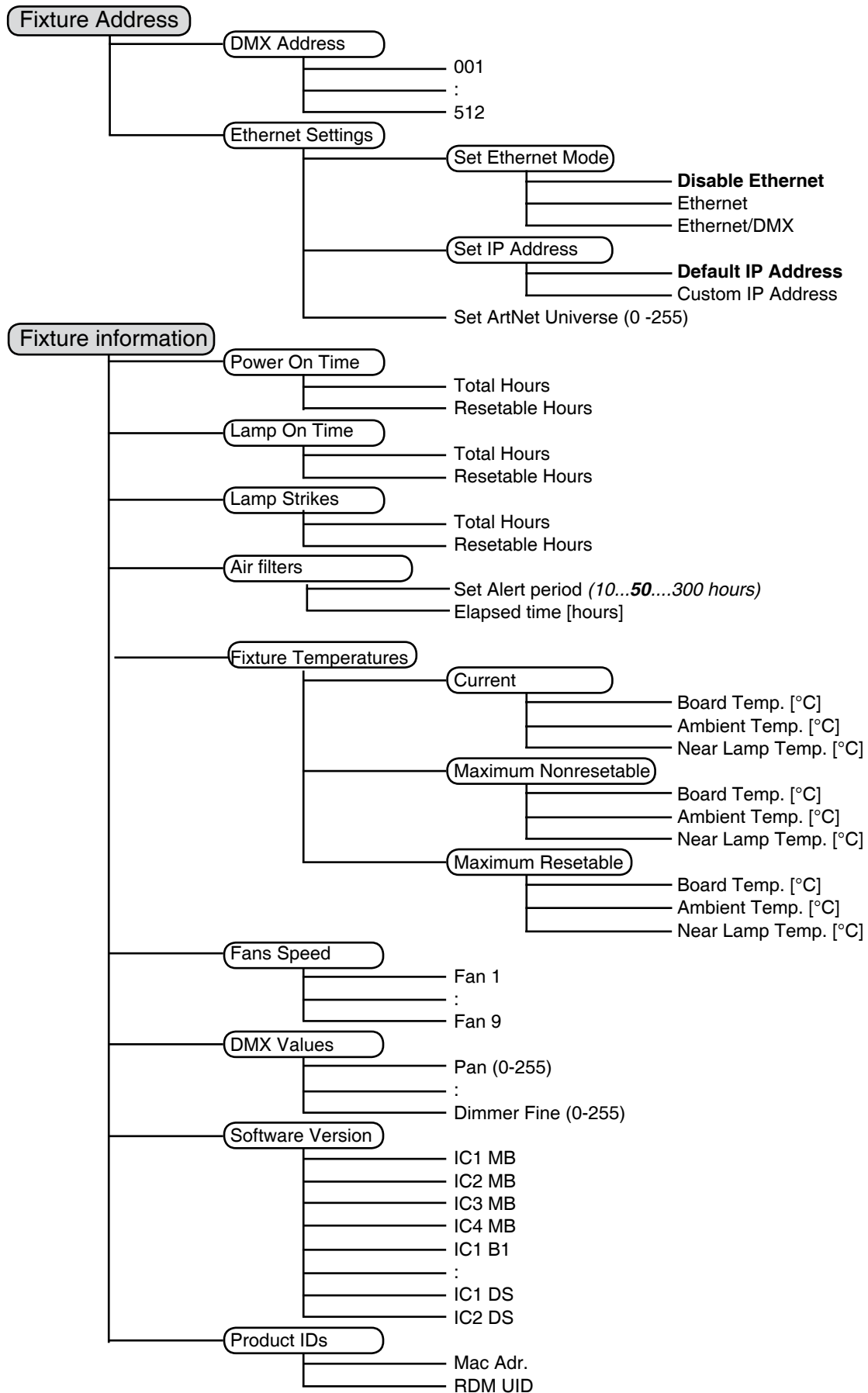
Framing system consists of four framing shutters which can be moved or swivelled to desired position separately.

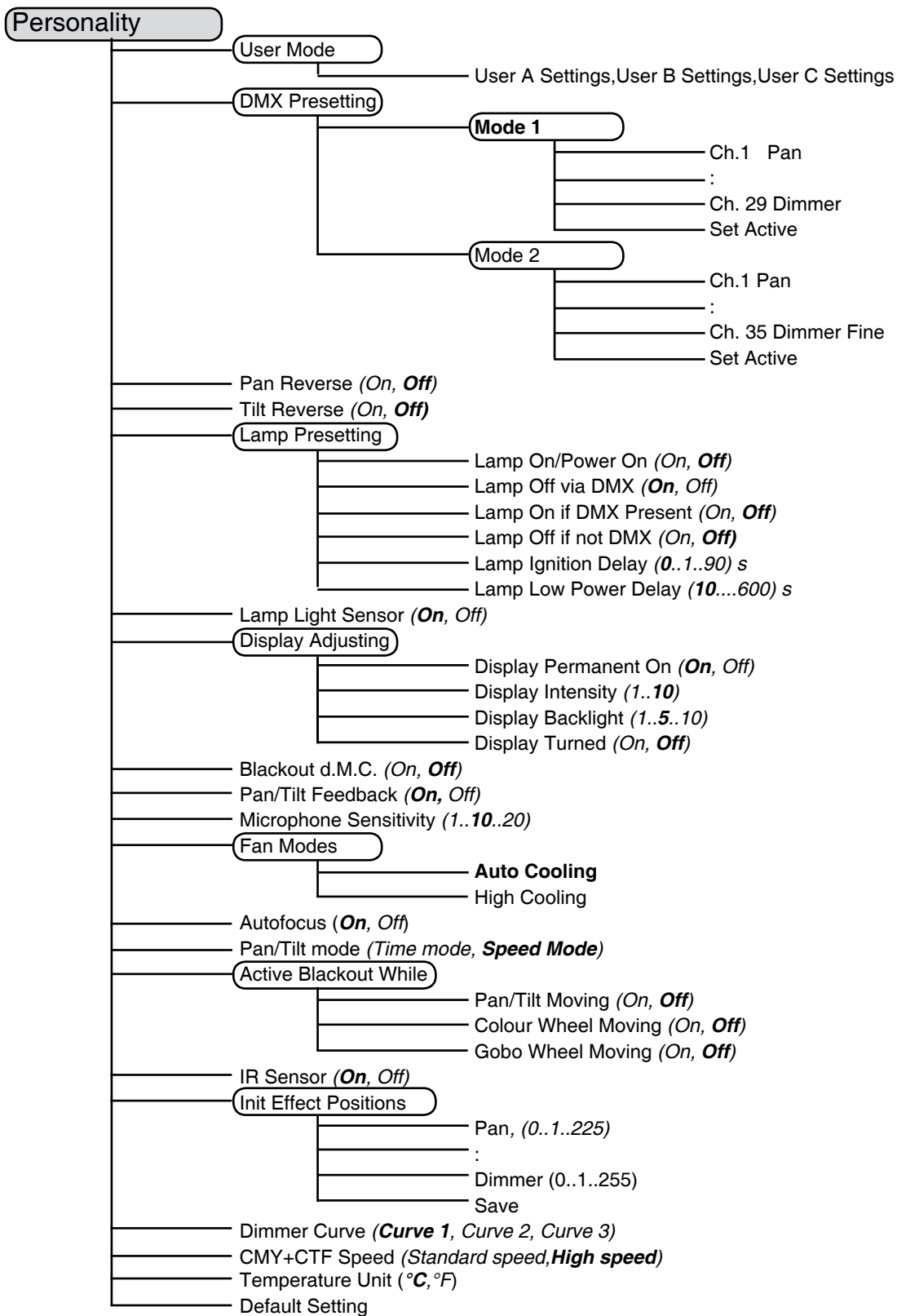
Dimmer/Shutter/Strobe

Smooth 0 - 100 % dimming is provided by the combined mechanical dimmer/shutter unit. This unit may also be used for strobe effect (1 - 15 flashes per second).

8. Control menu map

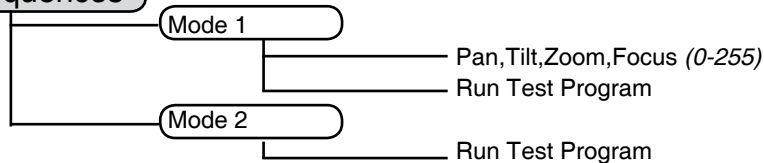
Note: Default settings = **Bold print**

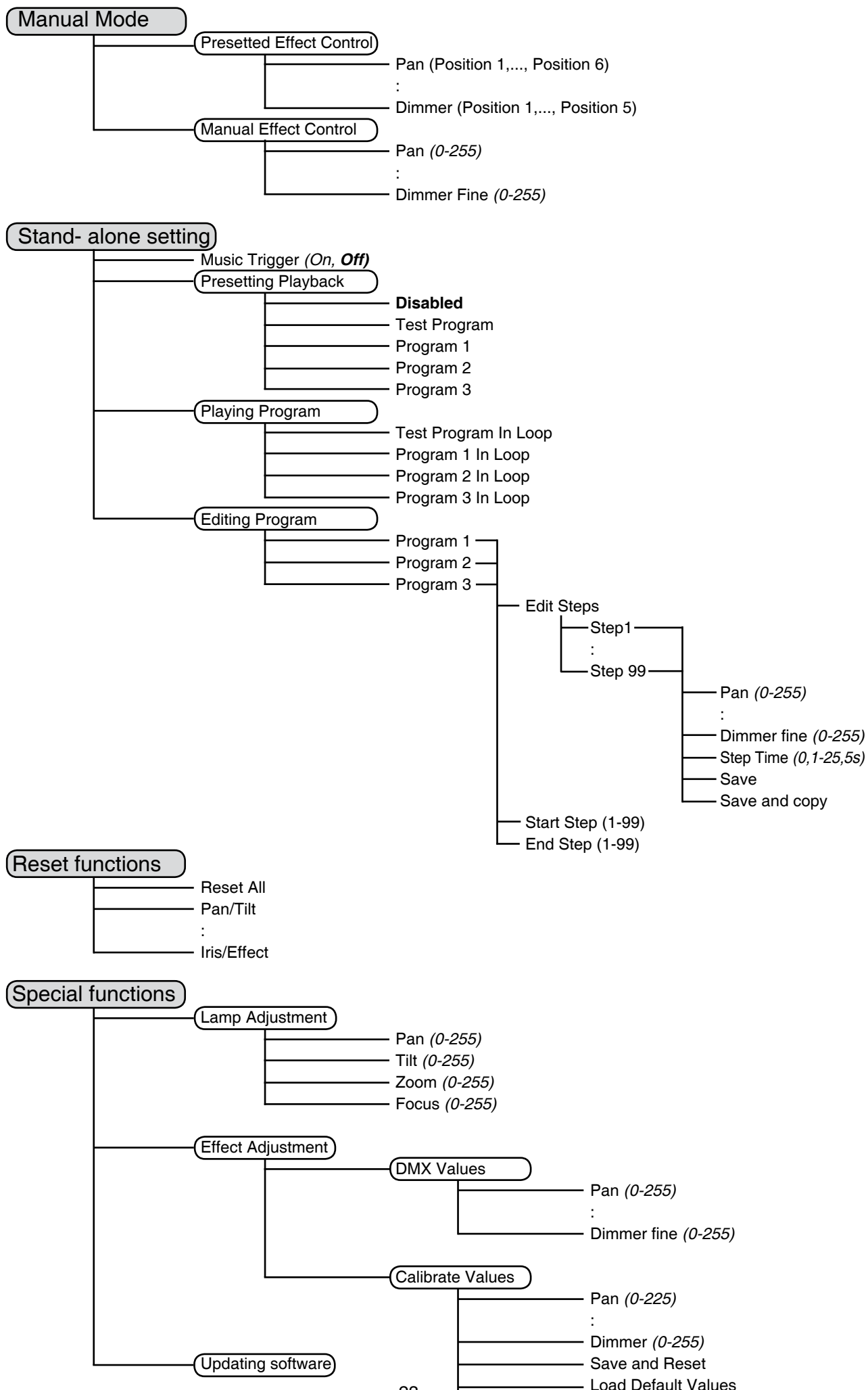




Lamp On/Off (*On, Off*)

Test sequences





9. Control menu

The control panel situated on the front panel of the base offers several features. You can simply set the DMX address, read the number of the lamp or unit hours, switch On and Off the lamp, run test, make a reset and also use many functions for setting fixture behaviour.

Control elements on the control board:

[RNS] encoder wheel-moves between menu items on the the same level, scrolls between values.

[ESC] button-leaves menu without saving changes

[ENTER] button-enters menu, confirms adjusted values and leaves menu

**After switching the fixture on,
the display shows the initial screen:**



**Press [ENTER],
the display shows current address:**



The main menu of the control panel is accessed by pressing [ENTER] button. To browse through the menu, rotate [RNS] wheel. To select a function or submenu, press [ENTER] button.

9.1 Fixture Address

Use this menu to set the DMX address.

DMX Address - Select this submenu to set DMX start address.

Ethernet Settings - Select this submenu to set the fixture for Ethernet operating.

Set Ethernet Mode - Select this submenu to select Ethernet operating mode:

Disable Ethernet - disables network operating.

Ethernet - Data are received to the Ethernet input of the fixture - every fixture from fixture chain has to be connected to the network.

Ethernet/DMX - Data go from Ethernet input „through“ the fixture to the DMX output of the fixture- it is possible to connect the next fixture to DMX output and to make a DMX chain.

Set IP Address - Select this submenu to set IP address. IP address is the Internet protocol address. The IP uniquely identifies any node (fixture) on a network. There can't be 2 fixtures with the same IP address on the network!

Default IP Address - Presetted IP address, you can edit only first number of IP address (2 or 10)
e.g. **002.019.052.086**.

Custom IP Address - The option enables edit all numbers of IP address e.g. **002.019.052.086**.

To set the custom IP address:

1. Select „Custom IP Address“ and press [ENTER].
 2. Use RNS wheel to set the first number of IP address
 3. Press [ENTER] to move on the second number of IP address
 4. Repeat steps 2 and 3 for the third and the fourth number of IP address.
- If you want to return back on the previously edited number, press [ESC].

Set ArtNet Universe - Select this submenu to set a Universe (0-255). The Universe is a single DMX 512 frame of 512 channels.

9.2 Fixture informations

Use this menu to read an useful information about the fixture.

Power On Time - Select this submenu to read the number of operation hours.

Total Hours - The function shows the total number of the operation hours since the ColorSpot 1200E AThas been fabricated.

Resetable Hours -The function shows the number of the operation hours that the ColorSpot 1200E AThas been powered on since the counter was last reset. In order to reset this counter to 0, press [ENTER] twice.

Lamp On Time - Select this submenu to read the number of the operation hours with the lamp on.

Total Hours - The function shows the total number of the operation hours with the lamp on since the ColorSpot 1200E AT has been fabricated.

Resetable Hours - The function shows the number of the operation hours with the lamp on that the ColorSpot 1200E AT has been powered on since the counter was last reset. In order to reset this counter to 0, press [ENTER] twice.

Lamp Strikes - Select this submenu to read the total number of the lamp strikes.

Total Hours - The function shows the total number of the lamp strikes since the ColorSpot 1200E AT has been fabricated.

Resetable Hours - The function shows the number of the lamp strikes since the counter was last reset. In order to reset this counter to 0, press [ENTER] twice.

Air Filters --- Regular cleaning of the air filters is very important for the fixture's life and performance. Buildup of dust, dirt and fog fluid residues reduces the fixture's light output and cooling ability. The two items of this menu help you to keep cleaning period of the air filters.

Set alert period - Cleaning schedule for the fixture depends on the operating environment. It is therefore impossible to specify accurate cleaning interval. This function allows you to change the cleaning interval of the air filters. This "alert" value is 50 hours and it is set as default. Inspect the fixture within its 50 hours of operation to see whether cleaning is necessary. If cleaning is required, clean all air filters and change the value in this menu on acceptable level. Min. level of alert period is 10 hours, max. is 300 hours.

Elapsed Time - The option allows you to read the time which remains to cleaning air filters. The time period is set in the menu mentioned above. Expired time period is signaled by a negative mark at the time value and a warning icon (triangle) on the display with the following message: "Clean Air Filters" Clean the filters and reset this menu item (by pressing "Enter" button twice while this menu is highlighted) to start the new time countdown.

Fixture Temperatures - Select this submenu to read the temperatures of the fixture:

Current - Select this function to read the current temperatures of the fixture inside (Board Temp., Ambient Temp., Near Lamp Temp.)

Maximum nonresetable - The function shows the max. temperatures of the fixture inside (Board Temp., Ambient Temp., Near Lamp Temp.) since the ColorSpot 1200E AT has been fabricated.

Maximum resetable - The function shows the maximum temperatures of the fixture inside (Board Temp., Ambient Temp., Near Lamp Temp.) since the respective counter was last reset. In order to reset desired counter to 0, press [ENTER] twice.

Measurement points:

Board Temp. - temperature on the main board in the fixture base.

Ambient Temp. - temperature of the air which is sucked to the fixture base. This temperature can be different from the real ambient temperature due to e.g. suction of the hot air from the fixture head to the base if the fixture is hanging at the ceiling. Please note that the ambient temperature should not exceed 40°C.

Near Lamp Temp. - temperature in the lamp chamber.

Fans Speed - Select this function to read the actual speed of the fans (speeds per minute):

Fan1 - The fan cools the lamp peak

Fan 3 - The fan on the left rear side of the head

Fan 5 - The fan at the CMY module at left

Fan 6 - The fan at the CMY module at right

Fan 7 - The fan inside the head

Fan 9 - The fan on the right front side of the head

DMX Values - Select this function to read DMX values of each channel received by the fixture.

Product IDs - Select this function to read the MAC address and the RDM UID number.

Software Version - Select this function to read the software version of the fixture modules:

IC1 MB - Main processor on the main board in the fixture base

IC2 MB - Tilt processor on the main board in the fixture base

IC3 MB - Pan processor on the main board in the fixture base

IC4 MB - EEPROM on the main board in the fixture base

IC1 B1 - Shutter/conversion filter 3200K processor on the board 1 in the fixture head

IC2 B1 - Gobo wheel /gobo rotation/colour wheel processor on the board 1 in the fixture head

IC1 B2 - CMY processor on the board 2 in the fixture head

IC2 B2 - Frost processor on the board 2 in the fixture head

IC1 B3 - Zoom/focus processor on the board 3 in the fixture head

IC2 B3 - Iris processor on the board 3 in the fixture head

IC1 DS - Display processor on the display module in the fixture base

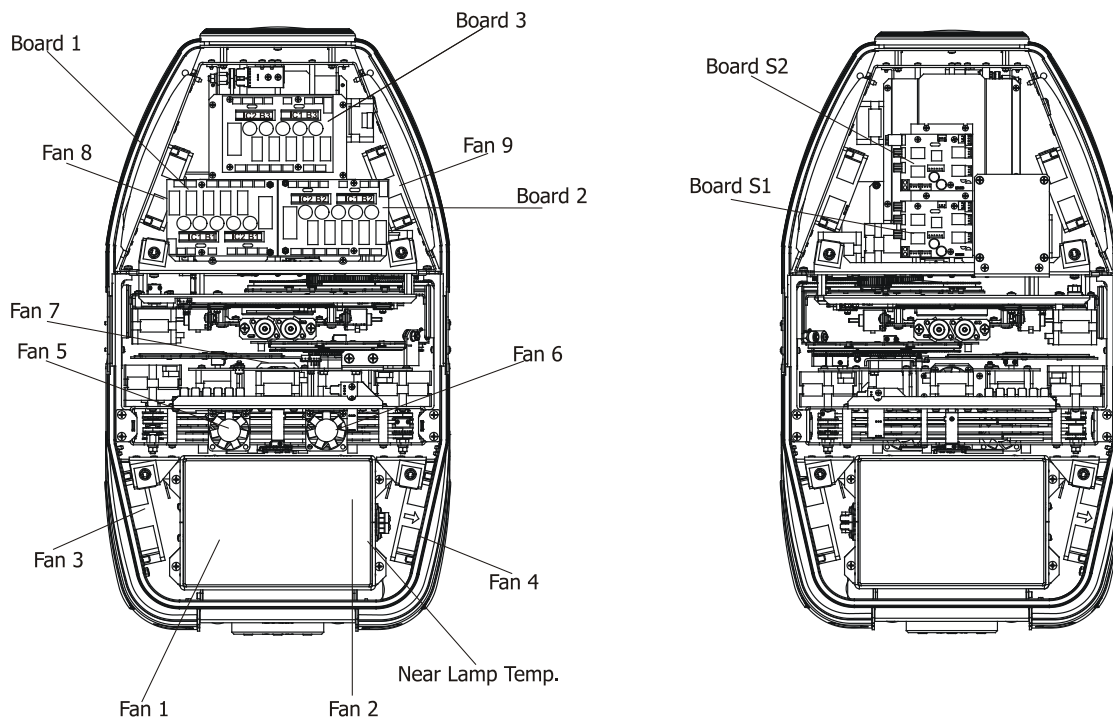
IC2 DS - Memory on the display module in the fixture base

FS1 - Framing shutters 3 and 4 on the board S1 in the fixture head

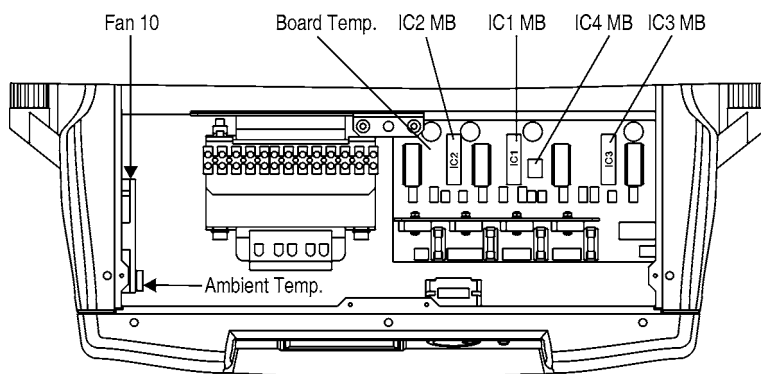
FS2 - Framing shutters 1 and 2 on the board S2 in the fixture head

Location of the fans, processors and temperature measuring points:

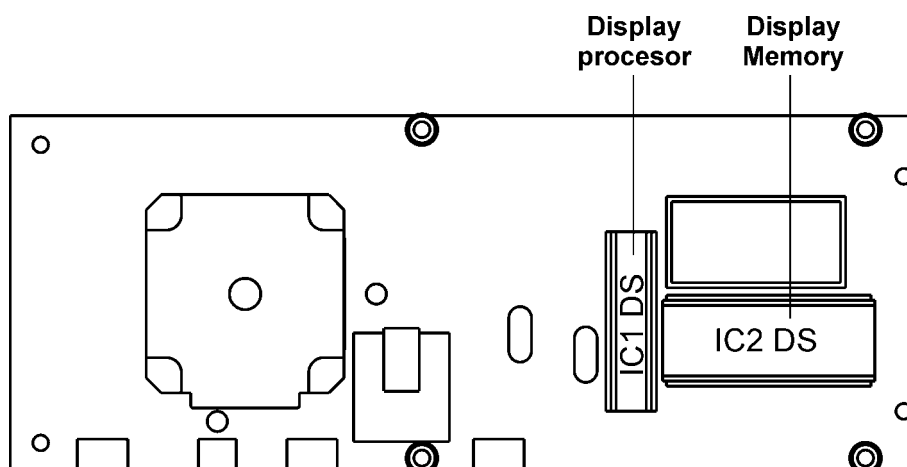
Head



Base



Display module



9.3 Personality

Use this menu to to modify ColorSpot 1200E AT operating behavior.

User mode - ColorSpot 1200E AT allows you to recall up to 3 user settings. After switching the fixture on for the first time, the **User A settings** are active. All changes made in „Personality” menu, „Fixture Address” menu and Music

Trigger and Presetting Playback functions from „Stand-alone setting” menu are saved to the **User A settings**. If you now set the **User B settings** active, from this moment these changes are saved to the **User B settings**. After switching the fixture off and on, the User B setting is active. In this way you may use 3 fixture operating behaviour.

User A Settings - The function recall the user A settings.
User B Settings - The function recall the user B settings.
User C Settings - The function recall the user C settings.

Pan Reverse - Select this function to invert the pan movement.

Tilt Reverse - Select this function to invert the tilt movement.

DMX Presetting - Select this function to choose suitable mode (Mode 1 - 29 channels, Mode 2 - 35 channels).

Mode 1 - Default channel setting

Channel	Effect	Channel	Effect
1	Pan	16	Iris
2	Pan Fine	17	Zoom
3	Tilt	18	Focus
4	Tilt Fine	19	Framing shutters rotation
5	Pan/Tilt Speed	20	Shutter 1-movement
6	Spec. Func.	21	Shutter 1-swivelling
7	Colour Wheel	22	Shutter 2-movement
8	Cyan	23	Shutter 2-swivelling
9	Magenta	24	Shutter 3-movement
10	Yellow	25	Shutter 3-swivelling
11	Conversion Filter	26	Shutter 4-movement
12	Effect Speed	27	Shutter 4-swivelling
13	Gobo Wheel	28	Shutter/Strobe
14	Gobo Indexing	29	Dimmer
15	Frost		

Mode 2

Channel	Effect	Channel	Effect
1	Pan	20	Frost
2	Pan Fine	21	Iris
3	Tilt	22	Zoom
4	Tilt Fine	23	Focus
5	Pan/Tilt Speed	24	Framing shutters rotation
6	Special Functions	25	Shutter 1-movement
7	Pan/Tilt Macro	26	Shutter 1-swivelling
8	P./T. Macro Speed	27	Shutter 2-movement
9	Colour Wheel	28	Shutter 2-swivelling
10	Cyan	29	Shutter 3-movement
11	Magenta	30	Shutter 3-swivelling
12	Yellow	31	Shutter 4-movement
13	Conversion Filter	32	Shutter 4-swivelling
14	CMY Colour Macro	33	Shutter/Strobe
15	Effect Speed	34	Dimmer
16	Effect Spd Assig.	35	Dimmer Fine
17	Gobo Wheel		
18	Gobo Indexing		
19	Gobo F. Indexing		

Please refer to the chapter „DMX - protocol” for detail description.

Lamp Presetting - Select this menu to change the lamp „behaviour“.

Lamp On/Power On - Select this function to turn the lamp on automatically after switching the fixture on.

Lamp Off via DMX - Select this function to switch off the lamp via DMX.

Lamp On if DMX Present - This function allows you to strike the lamp automatically after 26 seconds if DMX signal is present on the data link. If the ignition is unsuccessful (e.g. lamp is too hot), the fixture will try to ignite the lamp after next 26 s. This process will repeat until the lamp lights.

Lamp Off if not DMX - This function allows you to switch Off the lamp automatically after 2 minutes if DMX signal is missing on the data link.

Lamp Ignition Delay - This function allows you to set the time delay(0-90s) before the lamp will be ignited. This setting will not affect starting the lamp direct from the control panel (menu "Lamp On/Off").

Lamp Low Power Delay - This function enables set the time period after that the lamp power will be reduced if the shutter/dimmer is closed. The delay time can be set up to 600seconds. Default setting is 10s.

Lamp Light Sensor - Select this function to switch the lamp light sensor on or off. The option „On“ is for the standard operation.

Important: The option „Off“ is for „emergency operation“ only if the lamp light sensor is defective and you will wait for a service intervention! If the lamp light sensor is switched off and at switching the lamp on the electronics will still try to ignite the lamp until it shines (even when the lamp is damaged or absent), on this account some electronics parts could be damaged!

Display Adjusting - This function allows you to change the display settings.

Display Permanent On - This function allows you to keep the display on or to turn off automatically 2 minutes after last pressing any button (or a wheel movement) on the control panel.

Display Intensity - Select this function to adjust the display intensity (1-min., 10-max.).

Display Backlight - Select this function to adjust the display backlight (1-min., 10-max.).


Display Turned - Select this function to turn the display by 180°.

Blackout d.M.C. - Select this function to enable the blackout during the head movement correction (if the moving head lost its right pan/tilt position for a short moment).

Pan/Tilt Feedback - This function allows to return the moving head to the required pan/tilt position after changing the position by external force (e.g. by stroke).

Be careful, the Pan/Tilt Feedback OFF is not the standard operation and the head of the fixture can be damaged!

Note: If the feedback was switched off, the pan/tilt-position is changed by an external force and the feedback is switched on again, the moving head might not to be synchronized with the DMX signal. You have to make a reset in order to synchronize the moving head with the DMX signal.

Microphone Sensitivity - Select this function to adjust the microphone sensitivity from 1 (maximum) to 20 (minimum). If the sensitivity is correctly adjusted, the mark  will appear (blinking in the bass beat.)

Fan Modes - By using this function you can choose 2 types of the fan speed operating modes.

Auto Cooling - The fans automatically raise their speed in order to control inside temperature of the lighting, if the temperature inside increases about certain level (the low fan speed reduces the cooling of the lighting). This cycle can repeat several times until the temperature inside is on a suitable level.

High Cooling - The cooling fans work on max. speed (max. cooling). This mode we recommend for high ambient temperature (30 °C and more).

Autofocus - The function improves the image on the wall if the zoom changes (its effect is the best for gobos from gobo wheel 2 and for distance cca 6 m). If you want to focus the image on the long distance (more than 15 m), this function should be set off.

Pan/Tilt mode - Use this menu to set the character of the pan/tilt movement.

Time mode - Pan and tilt will move with different speeds and they will come at the same time to end point (pan and tilt sets its optimal speed).

Speed Mode - Pan and tilt will move with the same speed as adjusted by the channel 5 (Pan/Tilt speed). E.g. pan will come to the end point and wait for tilt, which has longer track.

Active Blackout while: - Use this function if you wish to close the light output during effect changes.

Pan/Tilt Moving - This function closes the light output during pan/tilt changes.

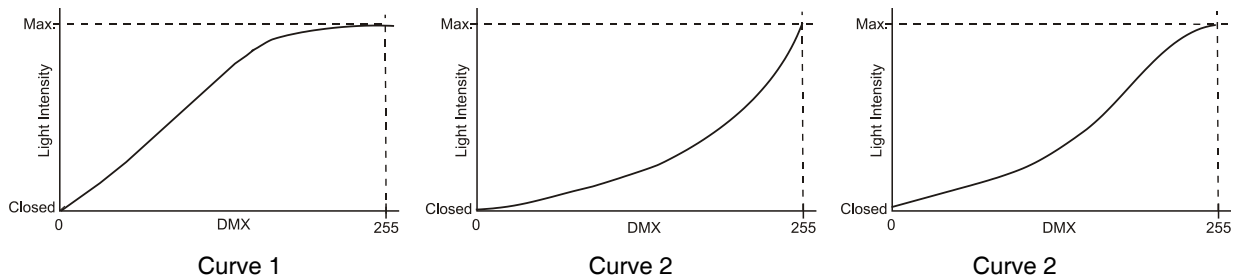
Colour Wheel Moving - This function closes the light output during colour changing.

Gobo Wheel Moving - This function closes the light output during gobo l changing.

IR Sensor - Select this function to switch on/off infra-red remote control.

Init Effect Positions - Select this function to set all effects to the desired positions. After switching the fixture on (if DMX is not connected), all effects will move to this init positions.

Dimmer Curve - Select desired dimmer running.



CMY-CTF Speed - Select this option to select desired speed of movement of CMY and CTF lamellas: Standard speed or High speed. Default setting is High Speed.

Temperature Unit --- Select this menu in order to display fixture temperatures in °C or °F.

Default Settings - Select this option to reset all fixture personalities to the default values.

9.4 Lamp On/Off

Use this option in order to switch on/off the lamp. It is also important to note, that the lamp is cold restrike type, that means, that it has to be cold before striking.

9.5 Test sequences

Use this menu to run a special demo-test sequences without an external controller, which will show you some possibilities of using ColorSpot 1200E AT.

Mode 1 - This mode is suitable for projections on the wall, ceiling or ground without any head movement.

Mode 2 - This mode uses all ColorSpot 1200E AT functions including pan/tilt movement and therefore is good for a complete introduction of the fixture.

9.6 Manual mode

Presetted Effects - Select this menu to call up presetted positions of channel effects.

Manual Effect control - Select this menu to control channels by control elements on the control board.

9.7 Stand-alone setting

Use this menu to set options for stand-alone mode as a selection of the playing program, programming and modifying current programs.

Music Trigger - Select this function to enable the sound control of the running programs via the built-in microphone.

Presetting Playback - This function allows you to select the program which will be played in the stand-alone mode after switching the fixture on. Selected program will be played continuously in a loop.

Disabled - The option disables „Presetting playback” function.

Test Program - The option will start built-in test program.

Program 1 - The option will start created program No. 1

Program 2 - The option will start created program No. 2

Program 3 - The option will start created program No. 3

Note: If the fixture operates in the controller mode (DMX controller is connected) and any program from this menu is selected, in this case the fixture will not respond to the DMX controller after switching on and will play selected program.

Playing program - Select this menu to run a built-in program or the 3 freely-programmable programs in a loop.

Test Program In Loop - The option starts built-in test program.

Program 1 In Loop - The option starts created program No. 1

Program 2 In Loop - The option starts created program No. 2

Program 3 In Loop - The option starts created program No. 3

Select the program you wish and press [ENTER]. The selected program starts running. By Pressing [ENTER] again is possible to pause the program running.

Editing Program - Select this menu to edit or create the program. The ColorSpot 1200E AT has one built-in program and the 3 free programs, each up to 99 steps. Each program step has a step time. Step time-the time, during which effects last in the current step.

Procedure:

1. Select the program you want to edit („Program 1” - „Program 3”) and press [ENTER].
2. Select „Edit Steps” menu and press [ENTER].
3. Select the desired program step („Step 01” - „Step 99”) and press [ENTER].
4. Select the desired item and press [ENTER]. Now you can edit DMX value for selected item:
„Pan” - a coarse pan, value 0-255

"Pan Fine" - a fine pan, value 0-255
 "Tilt" - a coarse tilt, value 0-255
 "Tilt Fine" - a fine tilt, value 0-255
 "Pan/Tilt Speed" - a speed of pan/tilt movement, value 0-255
 "Spec. Func." - a special functions, lamp on/off, reset, value 0-255
 "Pan/Tilt Macro" - a pan/tilt macro, value 0-255
 "P./T.Macro Speed" - a pan/tilt macro speed, value 0-255
 "Colour Wheel" - a colour wheel, value 0-255
 "Cyan" - a cyan, value 0-255
 "Magenta" - a magenta, value 0-255
 "Yellow" - a yellow, value 0-255
 "Conversion Filter" - a conversion temperature filter, value 0-255
 "CMY Colour Macro" - a CMYcolour macro, value 0-255
 "Effect Speed" - a effect speed, value 0-255
 "Effect Speed. Assig." - a effect speed assigning, value 0-255
 "Gobo Wheel" - a rotating gobo wheel, value 0-255
 "Gobo Indexing" - a gobo - coarse indexing and rotation, value 0-255
 "Frost" - a frost effect, value 0-255
 "Iris" - an iris, value 0-255
 "Zoom" - a zoom, value 0-255
 "Focus" - a focus, value 0-255
 "Framing shutters rotation" - a rotation of blades, value 0-255
 "Shutter 1- movement" - a movement of the shutter 1 from outward to invord, value 0-255
 "Shutter 1- swivelling" - a swivelling of the shutter 1 in range of -20° to + 20°, value 0-255
 "Shutter 2- movement" - a movement of the shutter 2 from outward to invord, value 0-255
 "Shutter 2- swivelling" - a swivelling of the shutter 2 in range of -20° to + 20°, value 0-255
 "Shutter 3- movement" - a movement of the shutter 3 from outward to invord, value 0-255
 "Shutter 3- swivelling" - a swivelling of the shutter 3 in range of -20° to + 20°, value 0-255
 "Shutter 4- movement" - a movement of the shutter 4 from outward to invord, value 0-255
 "Shutter 4- swivelling" - a swivelling of the shutter 4 in range of -20° to + 20°, value 0-255
 "Shutter/Strobe" - a shutter and strobe, value 0-255
 "Dimmer" - a dimmer intensity-coarse, value 0-255
 "Dimmer Fine" - a dimmer intensity-fine, value 0-255

5. Select „Save” or „Save and Copy” and press [Enter] to confirm adjusted values:

"Save" - saving the current prog. step

"Save and Copy" - saving and copying the current prog. step to the next prog. step.

6. Go on next prog. step and repeat this procedure (steps 4 and 5).

After creation the program, you can simply reduced its length (by changing the start/end steps) using the „Start Step” and „End Step” menu.

9.8 Reset functions

The ColorSpot 1200E AT can be reset totally or by function modules. Select relevant function to run a reset:

Reset All - This function enables the fixture to index all effects and return to their standard positions.

Pan/Tilt - This function resets pan and tilt.

Colour System - This function resets colour wheel and CMY/conversion filter module.

Gobo System - This function resets both rotating gobo wheels 1 and 2.

Dimmer/Strobe - This function resets dimmer/strobe module.

Zoom/Focus/Frost - This function resets focus, zoom and frost.

Iris/Framing shutters - This function resets iris and framing shutters.

9.9 Special functions

Use this menu for special services like adjusting lamp or adjusting effects.

Lamp Adjustment - This function can be used when you make the fine adjustment of the lamp. If you select this function, all effects will be canceled, shutter will be opened and the dimmer intensity will be set onto 100%. By using the options „PAN, Tilt, Zoom, Focus” you can focus the light on a flat surface (wall) and perform the fine lamp adjustment.

Effect Adjustment - By this function you can calibrate and adjust the effects to their standard/right positions. Disconnect the DMX controller from the fixture and select „DMX Values” menu. The display shows step by step effects by which you can adjust the fixture to the required position before the function calibration. When the positioning is finished, select „Calibrate Values” and press [ENTER]:

1. Calibration via the control board

Select desired effect, press [ENTER] and adjust its right value (0 - 255). This can be repeated for each calibrated effect if it is required. When the calibration is finished, it is necessary to use the „Save and Reset” function to write the calibration values to the memory and to make a reset in order to check the newly adjusted positions of the calibrated effects.

List of the calibrate effects:

Pan	Gobo Wheel	Shutter 2
Tilt	Gobo Indexing	Shutter 3
Colour Wheel		Shutter 4

Cyan	
Magenta	Iris
Yellow	Framing shut. rotation
Conversion Filter	Shutter 1

2. Calibration via the DMX controller

Connect the DMX controller to the fixture. Select desired effect and press [ENTER]. Now you can calibrate the selected effect by your controller.

DMX calibration protocol for Mode 1:

Pan	channel 30	Conversion Filter	channel 36	Framing shutter 2.....	channel 42
Tilt	channel 31	Gobo Wheel 1	channel 37	Framing shutter 3.....	channel 43
Colour Wheel ...	channel 32	Gobo 1 Indexing	channel 38	Framing shutter 4.....	channel 44
Cyan	channel 33	Iris.....	channel 39	Dimmer.....	channel 45
Magenta	channel 34	Framing shutters rot..	channel 40		
Yellow	channel 35	Framing shutter 1.....	channel 41		

DMX calibration protocol for Mode 2:

Pan	channel 36	Conversion Filter	channel 42	Framing shutter 2.....	channel 48
Tilt	channel 37	Gobo Wheel 1	channel 43	Framing shutter 3.....	channel 49
Colour Wheel ...	channel 38	Gobo 1 Indexing	channel 44	Framing shutter 4.....	channel 50
Cyan	channel 39	Iris.....	channel 45	Dimmer.....	channel 51
Magenta	channel 40	Framing shutters rot..	channel 46		
Yellow	channel 41	Framing shutter 1.....	channel 47		

After having calibrated required effects ,use the „**Save and Reset**” function to write the calibration values to the memory and to make a reset in order to check the newly adjusted positions of the calibrated effects.

Item „**Load Default Values**” allows to load default calibration values.

Updating software - The menu item allows you to update software in the fixture via either serial or USB port of PC.

The following are required in order to update software:

- PC running Windows 95/98/2000/XP or Linux
- DMX Software Uploader
- Flash cable RS232/DMX No.13050624 (if you want to use a serial port of PC)
- Robe Universal Interface (if you want to use an USB port of PC)

Note 1: Software update should execute a qualified person. If you lack qualification, do not attempt the update yourself and ask for help your ROBE distributor.

Note 2: DMX address, IP address, programs 1-3 and all items in the menu "Personality" will be set to their default (factory) values.

To update software in the fixture:

I. Installation of the DMX Software Uploader.

1. DMX Software Uploader program is available from the ROBE web site at WWW.robe.cz.
2. Make a new directory (e.g. Robe_Uploader) on your hard disk and download the software to it.
3. Unpack the program from the archive. If the Robe fixture is produced in both magnetic and electronic ballast version, name of DMX Software Uploader is the same for both versions.

II.Fixture software updating.

- 1.Determine which of your ports is available on your PC and connect it:
 - with the DMX input of the fixture if you using the flash cable RS232/DMX
 - with the DMX output of the Robe Universal Interface if you using the USB cable.
 Disconnect the fixture from the other fixtures in a DMX chain. Turn both the computer and the fixture on. Make sure the lamp is switched off (only if the fixture involves a lamp).
2. Switch the fixture to the updating mode by touching the "Updating Software " item

Note: If you do not want to continue in software update, you have to switch off and on the fixture to escape from this menu.

We recommend to cancel all running programs before starting the Software Uploader.
3. Run the Software Uploader program. Select desired COM and then click on the Connect button. (Select COM if the serial port is used or DreamBox1 if the USB port is used).

If the connection is OK, click on the "Start Uploading button" to start uploading. It will take several minutes to perform software update.

If the option "Incremental Update" is not checked, all processors will be updated (including processors with the same software version).

If you wish to update only later versions of processors, check the "Incremental Update box".

Avoid interrupting the process. Update status is being displayed in the Info Box window.

When the update is finished, the line with the text "The fixture is successfully updated" will appear in this window and the fixture will reset with the new software.

Note: In the case of an interruption of the upload process (e.g. power cut), the fixture keeps the updating mode and you have to repeat the software update again.

10. Power down mode

This mode omits fixture reset after switching the fixture on and reduces motor powers of the fixture.

Press and hold [ENTER] and at the same time switch on the Power switch. The following message appears:

Really Skip Initial Reset?

Escape/Enter

Press [ENTER] to activate "Power down mode" without fixture reset. Now you can set features and behaviour of the fixture by using "Fixture Address" menu and "Personality" menu. It is expected, that this mode will be exited by switching the fixture off, but if you want to go directly to the "normal operation mode", execute any fixture reset.

Note: All motors in "Power down mode" are deactivated and switching the lamp on from the control panel is blocked.

11. RDM

This fixture supports an RDM operation. The RDM (Remote Device Management) is a bi-directional communications protocol for use in DMX512 control systems, it is the new open standard for DMX512 device configuration and status monitoring. The RDM protocol allows data packets to be inserted into a DMX512 data stream without adversely affecting existing non-RDM equipment. By using a special „Start Code,“ and by complying with the timing specifications for DMX512, the RDM protocol allows a console or dedicated RDM controller to send commands to and receive messages from specific moving lights.

The ROBE Universal Interface with an additional ROBE RDM-network software provides the RDM functionality.

The list of RDM commands for ColorSpot 1200E AT is the following:

Parameter ID	Discovery command	SET command	GET command
DISC_UNIQUE_BRANCH	*		
DISC_MUTE	*		
DISC_UN_MUTE	*		
DEVICE_INFO			*
SUPPORTED_PARAMETERS			*
SOFTWARE_VERSION_LABEL			*
DMX_START_ADDRESS		*	*
IDENTIFY_DEVICE		*	*
DEVICE_MODEL_DESCRIPTION			*
MANUFACTURER_LABEL			*
DEVICE_LABEL		*	*
SENSOR_DEFINITION			*
SENSOR_VALUE			*
DISPLAY_INVERT		*	*
DISPLAY_LEVEL		*	*
PAN_INVERT		*	*
TILT_INVERT		*	*
DEVICE_RESET		*	
DMX_PERSONALITY		*	*
DMX_PERSONALITY_DESCRIPTION			*
STATUS_MESSAGES			*
STATUS_ID_DESCRIPTION			*
LAMP_STATE		*	*
LAMP_ON_MODE ¹		*	*
DEVICE_HOURS ²			*
LAMP_HOURS ²			*
LAMP_STRIKES ²			*

¹...Another options for this command (only for Robe's fixtures):

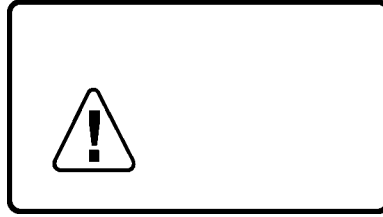
value PARAMETER_DATA=0x84 - lamp OFF by DMX value on DMX channel

value PARAMETER_DATA=0x88 - lamp OFF if DMX is not present

²...Commands relative resetable values

12. Error and information messages

Occured errors during fixture operation are signalized by warning icon on the display:



Press [ESC] to see the current error messages.

Description of the error messages:

Active Lamp Timer

This message appears if you try to switch on the lamp within 5 minutes after having switched it off (the lamp is too hot). The message will appear on the display if the lamp doesn't ignite within 28 seconds. The ColorSpot 1200E AT will store this information and automatically ignite the lamp when the 5 minutes period has expired.

Caution: The message is disabled if the lamp light sensor (function „Lamp Sensor“ in menu Personality) is switched Off.

Lamp Error

The ignition of the lamp is seven times unsuccessful (the "Active Lamp Timer" message appeared six times before), and the display shows "Lamp Error", meaning that the lamp could be damaged or even missed or there could be a failure on the ignitor or ballast.

Please place or replace the lamp and contact your dealer if the situation was not caused by the lamp.

Caution: The message is disabled if the lamp light sensor (function „Lamp Sensor“ in menu Personality) is switched off.

Overheated ->Lamp low

This message informs that the fixture head is overheated and the lamp power was reduced to 700 W.

Overheated ->Lamp Off

This message informs that the fixture head is overheated and the lamp was switched off by its temperature sensor.

Lamp Sensor Error

This message informs the lamp light sensor is failed.

Caution: The message is disabled if the lamp sensor (function Lamp Sensor in menu Personality) is switched Off.

Short Power Error

This message will appear if the fixture was shortly disconnected from the main.

Supply Frequency Error

This message will appear if the frequency of the main is not standard 50 or 60 Hz. This message can appear as a result of the interference during the lamp starting (if the lamp or igniter is old) or as a result of the interference by neighbouring devices. **In these cases the message does not affect the fixture operating!**

The following error messages are separated into 2 groups:

xxxx xxxx Error 1 (e.g. Colour Wheel Error 1, Gobo 2 Index Error 1)

xxxx xxxx Error 2 (e.g. Colour Wheel Error 2, Gobo 2 Index Error 2)

There are some possible reasons of faults:

Message

xxxx xxxx Error 1

Characteristic fault

Magnetic sensor is permanently On (e.g. leading wire is short-circuited, defective stepping motor, defective control circuit on the PCB)

xxxx xxxx Error 1/xxxx xxxx Error 2
(together)

Magnetic sensor is permanently Off (e.g. leading wire is disconnected, defective magnetic sensor, missing magnet), defective stepping motor.

Colour Wheel Error 1 (Colour Wheel Error 2)

The messages will appear after the reset of the colour wheel if this wheel is not located in the default position.

Gobo Wheel Error 1 (Gobo 1 Wheel Error 2)

The messages will appear after the reset of the gobo wheel 1 if this wheel is not located in the default position.

Gobo Index Error 1 (Gobo 1 Index Error 2)

The messages will appear after the reset of the gobo wheel 1 if the rotating gobo wheels are not located in the default positions.

Iris Error 1 (Iris Error 2)

The messages will appear after the reset of the iris if the iris lamellas are not located in the default positions.

Cyan Lamella Error 1 (Cyan Lamella Error 2)

The messages will appear after the reset of the CMY module if the cyan lamellas are not located in the default positions.

Magenta Lamella Error 1 (Magenta Lamella Error 2)

The messages will appear after the reset of the CMY module if the magenta lamellas are not located in the default positions.

Yellow Lamella Error 1 (Yellow Lamella Error 2)

The messages will appear after the reset of the CMY module if the yellow lamellas are not located in the default positions.

CTO Lamella Error 1 (CTO Lamella Error 2)

The messages will appear after the reset of the CTO module if the CTO lamellas are not located in the default positions.

Zoom Error 1 (Zoom Error 2)

The messages will appear after the reset of the zoom module if the module is not located in the default position.

Focus Error 1 (Focus Error 2)

The messages will appear after the reset of the focus module if the module is not located in the default position.

Pan Error 1 (Pan Error 2)

The messages will appear after the reset of the yoke if the yoke is not located in the default position.

Tilt Error 1 (Tilt Error 2)

The messages will appear after the reset of the head if the head is not located in the default position.

13. Technical specifications

Power supply:

Voltage: 100/120/208/230/250V AC, 50/60Hz ~

Main fuses: Live fuse: T10A@230V

 Neutral fuse: T10A@230V

 Live fuse: T20A@120V

 Neutral fuse: T20A@120V

Power consumption: 1550 VA /1520W (power factor= 0,98, I= 6.5A, U= 230V)

Lamp:

Philips MSR 1200 SA, base: GY22, colour temperature: 5600 K, average lamp life: 750 h

Optical System:

- High luminous-efficiency parabolic reflector
- Beam angle: 12.5°- 37°
- All lenses are anti-reflection coated

CMY-colours mixing module

- Smooth CMY colour mixing system
- Colour temperature correction filtre lowers the colour temperature from 5600K to 3200 K
- 63 colour macros

Colour wheel

- 4 dichroic filters, UV filter, 6000K temp. filter plus white
- Colour wheel with variable rotation speed in both directions
- All colour-modules are interchangeable
- Random colour selection by audio control
- Auto random colour selection

Rotating gobo wheel

- 6 replaceable dichroic glass gobos plus an open position rotating in both directions at different speeds
- Fine gobo indexing and rotation
- Rotating gobo-wheel cont. rotation
- Shaking gobos with variable speed

- Random gobo selection by audio
- Auto random gobo selection
- Dichroic glass gobos: outside diameter= 37.3 mm, image diameter =31.5 mm, high temperature borofloat or better glass, thickness=1.1mm up to 5 mm, coating: dichroic or enhanced aluminium

Strobe

- Strobe effect with variable speed (1 - 15 flashes per second)
- Preprogrammed macros with variable/random pulse effects

Dimmer

- Smooth micro-step driven dimming

Focus/Zoom

- Remotely controllable motorized focus
- Linear zoom

Iris

- Motorized (steplessly adjustable) iris for different beam diameters

Framing system

- Four framing shutters can be moved or swivelled to desired position separately

Motors

- 17 high quality stepping-motors controlled by microprocessors

Electronics

- control via control panel with graphic LCD display and 2 buttons/rotating wheel
- Readout fixture and lamp usage, receiving DMX values, temperature, etc
- Built-in analyzer for easy fault finding, error messages
- Remotely switching on/off the lamp by DMX
- Built-in demo sequences
- Silent fans cooling
- Stand alone operation
- Three user-editable programs, up to 99 steps each
- Digital serial input DMX-512
- Artnet operation
- electronics ballast
- 3 control-channels presettings (29 and 35 control channels)
- RDM support

Data input/output

- 3-pin and 5-pin XLR male sockets for DMX data input
- 3-pin and 5-pin XLR female sockets for DMX data output
- RJ-45 male socket for Ethernet connection

Pan/Tilt

- Pan movement range 530°
- Tilt movement range 280°
- 16 bit movement resolution
- Automatic Pan/Tilt position correction
- Remotely controllable speed of Pan/Tilt movement for easy programming
- Maximum Pan movement 530° in 4.5 s
- Maximum Tilt movement 280° in 2.6 s

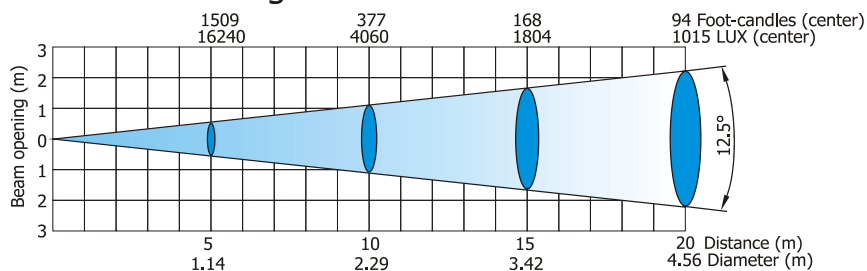
Rigging

- Stands directly on the floor
- Mounts horizontally or vertically with 2 clamps
- fastening of the clamp brackets in 4 positions
- Safety chain/cord attachment apertures

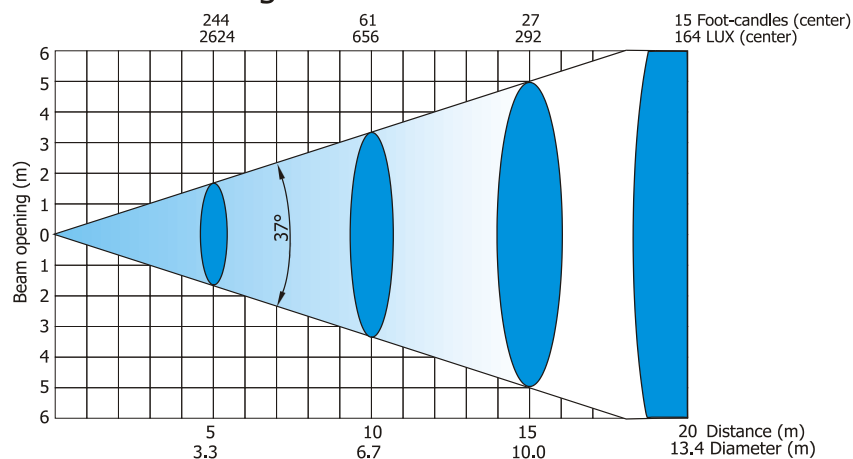
Beam path

Lamp: MSR 1200 SA

Beam angle 12.5°- Min. zoom



Beam angle 37°-Max. zoom



Tempeatures

- Maximum ambient temperature: 40° C
- Maximum housing temperature of the head: 130° C

Minimum distances

- Min. distance from flammable surfaces: 1.2 m
- Min. distance to lighted object: 4 m

Accessories:

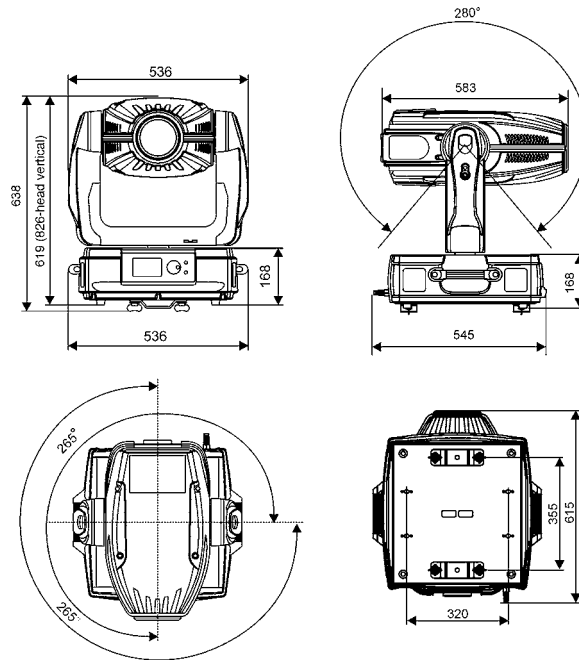
Gobo-set 17 (No. 15050026) 1 piece
 Mounting bracket Omega CL assembled (No. 99010420) 2 pieces

Optional acesories:

Remote control IR (No. 13050419)
 Flash Cable RS232/DMX (No. 13050624)

Dimensions and weight

- Weight: 42 kg



14. Maintenance and cleaning

It is absolutely essential that the fixture is kept clean and that dust, dirt and smoke-fluid residues must not build up on or within the fixture. Otherwise, the fixture's light-output will be significantly reduced. Regular cleaning will not only ensure the maximum light-output, but will also allow the fixture to function reliably throughout its life.

A soft lint-free cloth moistened with any good glass cleaning fluid is recommended, under no circumstances should alcohol or solvents be used!

DANGER ! Disconnect from the mains before starting any maintenance work

The front objective lens will require weekly cleaning as smoke-fluid tends to building up residues, reducing the light-output very quickly. The cooling-fans should be cleaned monthly.

The interior of the fixture should be cleaned at least annually using a vacuum-cleaner or an air-jet.

Dichroic colour filters, CMY lamelas, gobo wheel and the internal lenses should be cleaned monthly.

Remove dust and dirt from the fans and cooling vents using a soft brush and vacuum-cleaner.

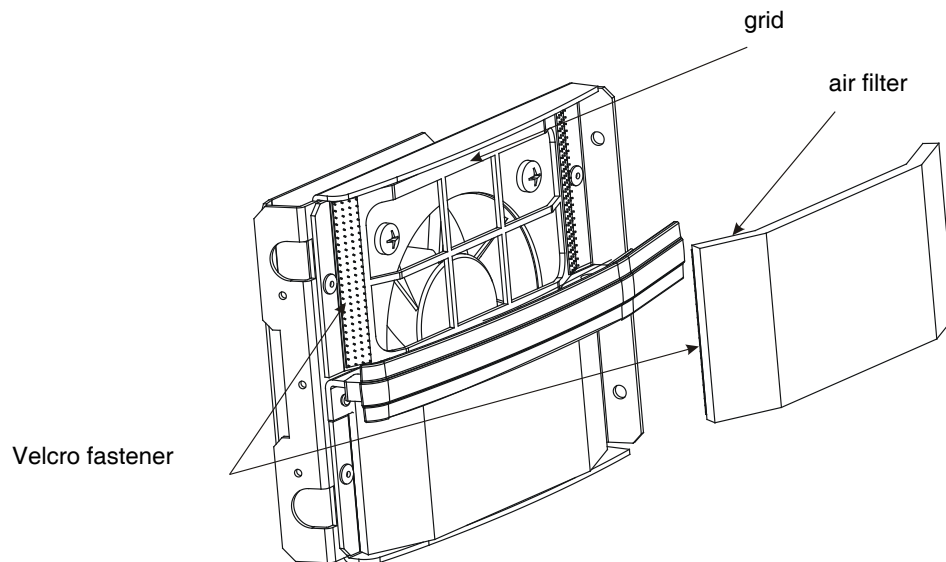
Important! Check the air filters periodically and clean before they become clogged!

Clean the air filters from the front fans with a vacuum cleaner, compressed air or you can wash them and put back dry.

Replacing the air filters.

- 1) Disconnect the fixture from power.
- 2) Remove both top and bottom cover of the head (by loosening the 4 quarter-turn fasteners on each cover)
- 3) Remove the air filters (they are fixed with a velcro fastener) from grids.
- 4) Clean or replace the air filters.
- 5) Place the filters on the grid and put head cover back.
- 6) Reset the elapsed time counter in menu Fixture information (Fixture Information--->Air Filters---> Elapsed

Time.



There are no serviceable parts inside the device except for the lamp and the main fuse.
For replacing lamp, please refer to the instructions under „Fitting/Exchanging the lamp”.

Replacing the fuse

If the lamp burns out, the fine-wire fuse of the device might fuse, too. Only replace the fuse by a fuse of the same type and rating.

Before replacing the fuse, unplug mains lead.

Procedure:

- 1) Unscrew the fuseholder on the rear panel of the base with a fitting screwdriver from the housing (anti-clockwise).
- 2) Remove the old fuse from the fuseholder.
- 3) Install the new fuse in the fuseholder.
- 4) Replace the fuseholder in the housing and fix it.

More complicated maintenance and service operations are only to be carried out by authorized dealers.

